DRAFT FINAL RISK MANAGEMENT PLAN
HUNTER POINT SHIPYARD PARCELS G, UC-1 AND UC-2
SAN FRANCISCO, CALIFORNIA

Prepared by

Geosyntec consultants

engineers | scientists | innovators

1111 Broadway, 6th Floor
Oakland, California 94607

Project Number: WR1247

November 2014
Revision 0

ED_006787_00010872-00001

Draft Final Risk Management Plan
Hunters Point Shipyard
Parcels G, UC-1 and UC-2
San Francisco, California

Prepared by

Geosyntec Consultants, Inc.
1111 Broadway, 6th Floor
Oakland, California 94607

Project Number: WR1247
November 2014
Revision 0

ED_006787_00010872-00002

TABLE OF CONTENTS

DRAFT

ED_006787_00010872-00003

DRAFT

ED_006787_00010872-00004

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

DRAFT

ED_006787_00010872-00005

LIST OF ACRONYMS AND ABREVIATIONS

ADMP	Asbestos Dust Mitigation Plan
ARIC	Area Requiring Institutional Controls
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
CAL/OSHA	California Occupational Safety and Health
CAP	Corrective Action Plan
CCR	California Code of Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986
CIH	Certified Industrial Hygienist
City	City and County of San Francisco
COC	Chemical of concern
COPC	Chemical of potential concern
CP DevCo	CP Development Co., LP
CRUP	Covenants to Restrict Use of Property
CWA	Clean Water Act
DCP	Dust Control Plan
DTSC	California Department of Toxic Substance Control
DWR	Department of Water Resources
EHSPs	Environmental Health and Safety Plans
ESLs	Environmental Screening Levels
FFA	Federal Facilities Agreement
FOST	Finding of Suitability to Transfer
GMP	Groundwater Management Plan
HPS	Hunters Point Shipyard or Hunters Point Naval Shipyard

DRAFT

ED_006787_00010872-00006

IR	Installation Restoration
LUCRDs	Land Use Control Remedial Design documents
MPPEH	Material Potentially Presenting an Explosive Hazard
Navy	United States Department of the Navy
NFA	No Further Action
NOA	Naturally occurring asbestos
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OCII	Office of Community Investment and Infrastructure as the Successor Agency to the San Francisco Redevelopment Agency
O&M	Operation and maintenance
OSHA	Occupational Safety and Health Administration
OVM	Organic Vapor Monitor
PAHs	Polycyclic aromatic hydrocarbons
PCAP	Petroleum Corrective Action Plan
PCBs	Polychlorinated biphenyls
PCE	Tetrachloroethene
PID	Photoionization Detector
PPE	Personal Protective Equipment
PSC	Preliminary Strategy Criteria
QSD	Qualified SWPPP Developer
RACR	Remedial Action Completion Report
RAWP	Remedial Action Work Plan
RD	Remedial Design
RG	Remediation Goals
RMP	Risk Management Plan
ROD	Record of Decision
RSL	Regional Screening Level

DRAFT

ED_006787_00010872-00007

RWQCB	Regional Water Quality Control Board
SFDPH	San Francisco Department of Public Health
SFPUC	San Francisco Public Utilities Commission
SIP	Soil Importation Plan
SSHO	Site Safety and Health Officer
SVOCs	Semi-volatile organic compounds
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	California State Water Resources Control Board
TCE	Trichloroethene
TPH	Total Petroleum Hydrocarbons
UCRP	Unexpected Condition Response Plan
USEPA	United States Environmental Protection Agency
VOCs	Volatile organic compounds
WDRs	Waste Discharge Requirements
XRF	X-Ray Fluorescence

DRAFT

ED_006787_00010872-00008

1. INTRODUCTION

The United States Department of the Navy (Navy) has conducted environmental investigations, feasibility studies, removal actions, and remedial actions at the former Hunters Point Shipyard or Hunters Point Naval Shipyard (HPS) in San Francisco, California. These activities have been conducted in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA), the Clean Water Act (CWA), and state-specific environmental programs in consultation with the United States Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board (RWQCB) as specified in a Federal Facilities Agreement (FFA) for HPS (Navy, 1992). These federal and state regulatory agencies, along with the Navy are referred to as the FFA Signatories.

The land at HPS is divided into Parcels, as depicted in Figure 1-1. In accordance with the final Records of Decision (RODs) for each Parcel, the Navy is responsible for implementing environmental cleanup activities to provide for protection of human health and the environment. For implementation of environmental activities for each Parcel, the Navy has prepared Land Use Control Remedial Design documents (LUCRDs) and Operation and Maintenance (O&M) Plans, which specify requirements for all future land owners. For RODs that call for land use and activity restrictions, the LUCRDs provide that the Navy will enter into a Covenant to Restrict Use of Property (CRUP) with DTSC for that Parcel, which will specify Restrictions applicable to the Parcel. The Restrictions in a CRUP run with the land in perpetuity and are enforceable by DTSC against Owners of the Site. Generally, the Restrictions specify land uses and activities that are prohibited or are restricted except with the approval of an activity-specific work plan approved by the FFA Signatories.

The Risk Management Plan (RMP) is a document called for by the LUCRDs, which provide that, "A RMP will set forth certain requirements or protocols that, if followed, will allow certain activities that are otherwise restricted to be performed without additional approval by FFA signatories". This RMP complies with this provision of the LUCRDs by specifying circumstances and conditions under which certain Restricted Activities may be performed without additional FFA Signatory approval (hereafter referred to as Restricted Activities Authorized with Conditions (See Section 3.1)). For

ED_006787_00010872-00009

all other Restricted Activities, the Owner must prepare and submit a work plan for FFA Signatory approval prior to conducting the work (See Section 4.2). In addition to providing the manner in which Restricted Activities Authorized with Conditions must be performed, the environmental procedures and protocols set forth in this RMP are intended to provide a basis for the Owner to prepare site-specific work plans for FFA Signatory approval.

The Navy intends to transfer HPS property to the Office of Community Investment and Infrastructure (OCII), the Successor Agency to the San Francisco Redevelopment Agency. The transfer of property will occur after the Navy has prepared a Finding of Suitability to Transfer (FOST) and the FFA Signatories have concurred that the property is suitable for transfer for its intended future use. The OCII, in conjunction with its developer, CP Development Co., LP, (CP DevCo) and in consultation with the Navy, has prepared this RMP. The FFA Signatories have approved the RMP. A definition of terms used in this RMP is included in Appendix A.

The RMP is organized as follows:

Section 1 Introduction, Scope of RMP, and intended users.

Section 2 Summary of Environmental Conditions for the Site: Provides a brief description of soil and groundwater conditions and identifies the remedies in place for each Parcel subject to this RMP.

Section 3 Restricted Activities Authorized with Conditions, Regulatory Oversight, RMP Modifications and Public Repository.

Section 4 Reporting and Notice Protocols: Describes reporting and notification process, including notification entities, activities requiring notification, and the annual report requirements.

Section 5 Risk Management Measures during Restricted Activities: Presents risk management measures that must be implemented during Restricted Activities on the Site to ensure the integrity of the implemented remedies.

Section 6 References: Lists references used in the preparation of this RMP.

ED_006787_00010872-00010

1.1 RMP Scope

The Navy and OCII contemplate that land at the HPS will be transferred in discrete Parcels over time. The collective Parcels that have transferred and are subject to this RMP are herein referred to as the "Site" and are depicted on Figure 1-1. The RMP will be a living document and will be modified as each Parcel or Parcels of land are transferred from the Navy to OCII. As illustrated in Figure 1-1, the RMP applies to those Parcels where: a) a remedy is in place; b) the FFA Signatories have approved a Remedial Action Completion Report (RACR); c) the FFA Signatories have concurred on a FOST; d) ownership of the land has been transferred from the Navy to the OCII; and e) the Navy has entered into a CRUP with DTSC specifying Restrictions applicable to each Parcel. As the Navy transfers land Parcels to the OCII, subject to FFA Signatory approval, and those Parcels become subject to this RMP, the RMP and Figure 1-1 will be updated and, upon approval from the FFA Signatories, will be made available in the HPS information repositories (see Section 3.4) and on the San Francisco Department of Public Health (SFDPH) HPS Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp).

This RMP authorizes the Owner to perform certain Restricted Activities on the Site without further FFA Signatory approval, referred to as Restricted Activities Authorized with Conditions (see Section 3.1), provided that the Owner follows the environmental procedures and protocols set out in this RMP (see Section 5.0). This RMP constitutes written approval from the FFA Signatories to perform Restricted Activities Authorized with Conditions for purposes of the CRUP and deed. To perform all other Restricted Activities, the Owner must obtain FFA Signatory approval through a site-specific work plan, which may be based on this RMP and the procedures and protocols set forth herein.

In addition to this RMP, Owners of the Site must comply with all provisions of any CRUP applicable to the particular Parcel. The Site does not include and this RMP is not required for Parcel A or Parcel D-2 because those Parcels are not subject to land use or activity restrictions. In addition, the Site does not include and this RMP is not applicable to the areas subject to radiological restrictions, which are currently anticipated to be a portion of the Installation Restoration (IR) Site 7/18 on Parcel B, the shoreline area of Parcel E, and the majority of Parcel E-2 because a separate RMP or

ED_006787_00010872-00011

equivalent work plan will be developed specifically for this type of land that has not received a radiological unrestricted release designation.

Although this RMP sets forth the requirements to appropriately manage the potential risks in soil and groundwater following remedy completion, the RMP is not intended to catalog all other legal requirements that may apply to the Site or to activities conducted under the RMP including, but not limited to worker health and safety as governed by the Occupational Safety and Health Administration (OSHA) and compliance with Article 31 of the San Francisco Health Code. Article 31 contains special permit processing requirements that apply to the Site.

Nothing in this RMP shall be construed to suggest that the Navy has any financial responsibility for the costs of replacement, repair, modification or disturbance of the remedies in place at the time of transfer or any remedies subsequently installed by the Owner to the extent that such costs result from an Owner's performance of activities authorized under this RMP or under a subsequent FFA Signatory-approved work plan, and that are not related to the investigation or remediation of unexpected conditions. By way of example, such costs may include the following, to the extent they result from the performance of activities authorized under this RMP and are not related to the investigation or remediation of unexpected conditions: costs of repair or replacement of Durable Covers or shoreline revetments; costs of excavation, treatment, and/or disposal of known contaminated soil; costs of repair, replacement, relocation, and abandonment of groundwater monitoring and extraction wells; costs of construction dewatering and related groundwater treatment; costs of installation of groundwater conduit management measures in utility trenches; costs to prevent groundwater intrusion through sealing; costs of construction- and demolition-related soil sampling and analysis.

1.2 Intended Users of RMP

This RMP is intended for the following entities or their designees who may perform or oversee Restricted Activities within the Site:

- The OCII;
- Owners (see Appendix A definitions);
- FFA Signatories;

ED_006787_00010872-00012

- City and County of San Francisco (City) Department of Public Health, (SFDPH).

The RMP will be used by Owners to ensure protection of the Navy's remedy and by the FFA Signatories and SFDPH to assist in ensuring that future Owners comply with the Restrictions in CRUPs and Deeds applicable to the Site.

DRAFT

ED_006787_00010872-00013

2. SUMMARY OF ENVIRONMENTAL CONDITIONS FOR THE SITE

This section summarizes the various Parcels that collectively make up the Site and their current environmental conditions. The final environmental conditions of the Site and in-place remedy are thoroughly documented in the RACR, Petroleum Hydrocarbon Closeout Reports, Radiological RACR, and the FOST for each Parcel. As of the date of transfer for each Parcel, the Navy has implemented all petroleum corrective actions and the CERCLA remedy.

The FFA Signatories have identified special categories for certain areas of environmental interest in the Site which are subject to special protocols under this RMP. These RMP special categories are summarized in Section 2.1 and areas of environmental interest are described by Parcel in Section 2.2. The majority of the Site is not within an area of environmental interest and is only subject to the general RMP protocols described in Section 5.0.

Section 2.2 provides Parcel-specific summaries of the environmental conditions of the Site. For each Parcel, Section 2.2 sets forth a general site description, the environmental conditions, a summary of the CERCLA remedy, and a description of any areas of environmental interest subject to special protocols under this RMP, and figures depicting key environmental features.

2.1 Areas Subject to Special Protocols

Areas of environmental interest in the Site and their environmental conditions are discussed, as applicable for each Parcel, in Section 2.2 below. The environmental conditions that apply in each of these areas are summarized here, with reference to the relevant RMP protocolsprotocol (see Section 5.0) setting forth the applicable requirements.

2.1.1 Areas Requiring Location-Specific Construction Worker Health and Safety Protocol

The FFA Signatories have determined that soil beneath certain building foundations may contain unexpected levels of chemicals of concern (COCs) that have been previously remediated in soil surrounding the buildings. The FFA Signatories require that robust health and safety monitoring protocol be implemented during development

DRAFT

ED_006787_00010872-00014

construction activities in these certain areas to ensure adequate construction worker health and safety protection if and when the building foundations are removed and unexpected conditions are encountered. This construction worker health and safety monitoring protocol is described in Section 5.1.2 and is in addition to the general health and safety protocols applicable throughout the Site. As discussed in Section 5.1.2, this more robust health and safety monitoring protocol is only required when the applicable building foundation is removed and the soil beneath the foundation is exposed for the first time. Known information on potential COCs in these areas is discussed in Section 2.2 for each Parcel, as applicable. General and location-specific health and safety requirements for the Site are outlined in Section 5.1. Section 5.5 and Appendix H set forth the protocols that apply when unexpected conditions are encountered.

2.1.2 ARIC for VOCs in Soil Vapor

Areas Requiring Institutional Controls (ARIC) for volatile organic compounds (VOCs) in soil vapor associated with the construction of structures and utilities are described in Section 2.2 for each Parcel, as applicable. Structures built and utility work in these areas must comply with standards, protocols, and best management practices designed to prevent COCs in soil vapor from migrating, entering utility piping, or compromising the quality of indoor air. These standards and protocols are set forth in section 5.7.2 and 5.7.3 of the RMP.

2.1.3 Areas with COCs in Groundwater

Areas with historic and residual COCs in groundwater are described in Section 2.2 for each Parcel, as applicable. Prior to conducting activities in these areas that may result in exposure to or movement of COCs in groundwater, the environmental condition of these areas will be updated based on the latest groundwater monitoring results. Based on the updated conditions, a Groundwater Management Plan and/or soil vapor mitigation plan will be prepared and approved by the FFA Signatories. Protocols for work in these areas are described further in Section 5.7.1, 5.7.3, and Appendix G, which is a template for a Groundwater Management Plan.

ED_006787_00010872-00015

2.1.4 Areas with COCs in Soil Above RGs or Petroleum PSC

In some discrete locations on the Site, the FFA Signatories have approved COCs to safely remain in the soil beneath a Durable Cover at concentrations above the ROD Remediation Goals (RGs; see Parcel specific ROD) and the Petroleum Preliminary Strategy Criteria (PSC; Shaw, 2007). These discrete locations are described in Section 2.2 for each Parcel, as applicable. If the Durable Cover is removed in these locations, special soil handling and management protocols apply, as set forth in Section 5.3.3. With the exception of naturally occurring metals, there are no known areas with COCs above RGs or PSC on the Parcels that currently comprise the Site.Areas with naturally occurring metals above RGs are not subject to special soil handling and management protocols.

2.1.5 Petroleum NFA Areas with No Restrictions

Areas where petroleum releases were remediated but residual petroleum COCs remain in place were granted a No Further Action (NFA) designation by the RWQCB. Soil in these areas may be discolored or exhibit a petroleum odor. The specific areas where this may be the case are described in Section 2.2 for each Parcel, as applicable. Based on the NFA determination and absent unexpected conditions, any discolored or odiferous soil in petroleum NFA areas may be managed without restriction, subject to the protocols in Section 5.3.4.1 of this RMP. The soil may be moved within the Site in accordance with the general soil handling protocols set forth in Section 3 and Section 5. Unexpected conditions include evidence of free petroleum liquid or petroleum sheen on the soil or groundwater. In the event that these or other unexpected conditions are encountered, the RMP protocols for unexpected conditions provided in Section 5.5 and Appendix H shall apply.

2.1.6 Petroleum NFA Areas with Restrictions

There are a few areas on the Site where petroleum releases were remediated but petroleum COCs remain in place above the petroleum PSC identified in the New Petroleum Program Strategy (Shaw, 2007). These areas were granted a NFA with Restrictions designation by the RWQCB. The few specific areas where this NFA with Restrictions designation applies are described in Section 2.2 for each Parcel, as applicable. The specific Restrictions and protocol that apply to each of these areas are

ED_006787_00010872-00016

briefly described in Section 5.3.4.2. If unexpected conditions are encountered in these areas, the RMP protocols for unexpected conditions provided in Section 5.5 and Appendix H shall apply. There are no known petroleum NFA areas with Restrictions on the Parcels that currently comprise the Site.

2.2 Parcel-Specific Environmental Conditions

The former Navy Parcels that make up the Site include Parcel G, Parcel UC-1, and Parcel UC-2. This Section 2.2 provides a general site description for each of these Parcels, the environmental conditions, a summary of the CERCLA remedy, and a description of any specific areas subject to special protocols under this RMP. Notwithstanding the known environmental conditions described for each Parcel in this Section, the potential exists for unexpected conditions to be encountered at the Site. If unexpected conditions are encountered, appropriate health and safety protocol should be assessed (see Section 5.1) and the Unexpected Conditions Response Plan should be implemented (see Section 5.5 and Appendix H).

2.2.1 Parcel G

Parcel G includes about 40 acres in the central area of HPS and is bounded by Parcels UC-1 to the north, Parcels C and D-1 to the east, Parcels D-1 and E to the south, and Parcels E and UC-1 to the west (Figure 1-1) (Navy, 2014a). The land surface at Parcel G is entirely covered with hardscape that consists of asphalt, concrete, or building foundations and slopes gently from northwest to southeast toward the bay (Navy, 2014a). Historically, Parcel G was part of the industrial support area at HPS and used for shipping, ship repair, laboratory, office and commercial activities (Navy, 2007).

2.2.1.1 Environmental Condition

Certain COCs remain in soil, soil vapor, and groundwater at Parcel G at levels and in conditions that the FFA Signatories have determined are consistent with the ROD Remedial Action Objectives. The COCs that remain in soil above the RGs include naturally occurring metals (specifically, arsenic and manganese; Navy, 2014e). COCs in soil gas that remain at Parcel G include VOCs (specifically, benzene, carbon tetrachloride, chloroform, and tetrachloroethene (PCE), trichloroethene (TCE) and their degradation products; Sealaska, 2013). COCs that remain in A-aquifer groundwater

ED_006787_00010872-00017

include VOCs (specifically, carbon tetrachloride, chloroform, PCE and degradation products; Navy, 2010c, 2014e, and 2014f). COCs are not present in B-aquifer groundwater at levels that may pose a health risk (Navy, 2009c). COCs are not present in groundwater in the A or B aquifers at levels that may pose potential environmental impacts to the Bay; however, the Navy continues to conduct groundwater monitoring for metals (specifically, chromium VI) to confirm that concentrations remain below RGs (Navy, 2014e). Notable environmental conditions at Parcel G are depicted on Figures 2-1.

2.2.1.2 CERCLA Remedy

The FOST documents that the Parcel G CERCLA remedy is in place. The EPA, DTSC, and the RWQCB have concurred with the FOST (cite concurrence letters). Components of the remedy that remain to ensure that human health and environment are protected from potential long term health risks include:

- Durable Covers over the entire Parcel to prevent contact with residual ubiquitous metals in soil. The Parcel G Durable Cover is defined as hardscape (e.g., asphalt, building foundations, concrete pads, sidewalks, etc.) in the ROD (Navy, 2009c), Remedial Design (RD; Navy, 2010b), Remedial Action Work Plan (RAWP; Arcadis, 2012) and Remedial Action Completion Report (RACR; ARCADIS, 2014 and ERRG, 2014).
- Groundwater monitoring to verify plume stability or that the remedy continues to meet the RGs defined in the Parcel G ROD.
- Land use and activity restrictions and institutional controls, implemented through a CRUP, to prevent or minimize exposure to residual COCs in the soil, soil gas, and groundwater. The entire Parcel includes restrictions related to the durable cover.

The requirements for inspection, maintenance, and reporting of these remedy components are provided in the O&M Plan for Parcel G (Navy, 2014d). The O&M Plan requires that the owner conduct quarterly inspections for the first year following implementation and semi-annually thereafter and prepare an Annual Inspection Report to summarize the inspection findings for each year (Navy, 2014d). The long term O&M obligations are independent of the RMP requirements.

ED_006787_00010872-00018

The radiological corrective actions in Parcel G are complete and no radiological restrictions remain on Parcel G. CDPH issued the Radiological Unrestricted Release Recommendation for Parcel G in 2012 stating that Parcel G is suitable for unrestricted use with respect to radiological issues (CDPH, 2012).

2.2.1.3 Areas Subject to Special Protocols

The following areas on Parcel G are subject to special protocols as summarized above in Section 2.1.

2.2.1.3.1 Areas Requiring Location-Specific Construction Worker Health and Safety Protocol

The FFA Signatories have determined that soil beneath certain building foundations at Parcel G may contain unexpected levels of chemicals that have been previously remediated in soil surrounding the buildings. Specific chemicals of potential concern include polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), metals, petroleum hydrocarbons and VOCs. Location-specific health and safety protocols are required, as set forth in Section 5.1.2, if and when building foundations are removed in the following locations (refer to Figure 2-1):

- Building 366 – Soil excavated from beneath the building slab should be monitored during and after demolition for unexpected conditions. Health and safety protocol should consider the potential presence of chlorinated VOCs, PAHs, TPH, and metals (lead and antimony).
- Building 408 – Soil excavated from beneath the former building slab should be monitored during and after demolition for unexpected conditions. Health and safety protocol should consider the potential presence of PCBs, PAHs, chlorinated VOCs, TPH, and metals (lead and cadmium).
- Building 411 – Soil excavated from beneath the building slab should be monitored during and after demolition for unexpected conditions. Health and safety protocol should consider the potential presence of PCBs, PAHs, chlorinated VOCs, TPH, and metals (lead, cadmium, chromium, hexavalent chromium, nickel and mercury).

ED_006787_00010872-00019

- Building 436 – Soil excavated from beneath a portion of the building slab should be monitored during and after demolition for unexpected conditions. Health and safety protocol should consider the potential presence of PCBs, chlorinated VOCs, benzene, toluene, ethylbenzene, xylenes, and metals (lead, cadmium, and mercury).
- Building 439 – Soil excavated from beneath the building slab should be monitored during and after demolition for unexpected conditions. Health and safety protocol should consider the potential presence of chlorinated VOCs, benzene, toluene, ethylbenzene, xylenes, and metals (lead, cadmium, and mercury).

2.2.1.3.2 ARIC for VOCs in Soil Vapor

Parcel G includes ARICs for VOCs in soil vapor as identified on Figure 2-1. Utility and building foundation work in these areas must comply with standards and protocols as set forth in Sections 5.7.2 and 5.7.3 of the RMP.

2.2.1.3.3 Areas with COCs in Groundwater

The COCs in groundwater at Parcel G are a limited number of VOCs. Groundwater monitoring continues at the former IR-33 Plume for carbon tetrachloride and chloroform at well IR33MW64A. A portion of this former plume is included as an ARIC for VOCs in soil vapor; soil gas sampling results in the general area located outside the ARIC for VOCs in soil vapor in 2010 did not indicate concentrations that would pose an unacceptable risk to potential future residential receptors via vapor intrusion under documented site conditions. Groundwater monitoring continues at the former IR-71 East Plume for PCE, TCE, and vinyl chloride at wells IR71MW03A and IR71MW04A. Groundwater monitoring continues at the former IR-09 North Plume for chloroform, TCE, and vinyl chloride at well IR09MW07A. Soil gas sampling results collected in the general areas corresponding to the former IR-71 East Plume and former IR-09 North Plume in 2010 did not indicate concentrations that would pose an unacceptable risk to potential future residential receptors via vapor intrusion under documented site conditions. Work in these areas must comply with standards and protocols as set forth in Section 5.7.1 and 5.7.3 of the RMP.

ED_006787_00010872-00020

2.2.1.3.4 Areas with COCs Above RGs or Petroleum PSC

There are no known areas with COCs in soil above RGs or petroleum PSC on Parcel G subject to special soil handling and management protocols.

2.2.1.3.5 Petroleum NFA Areas With No Restrictions

RWQCB staff issued NFA letters closing the Parcel G petroleum corrective action areas in 2011 (RWQCB, 2011a through 2011h), determining that residual contamination left-in-place is below PSCs and pose no significant risk to human health or the environment. Soil in these areas, however, may exhibit visual and/or olfactory evidence of petroleum. The areas where soil may exhibit visual and olfactory evidence of petroleum impacts are: AOCs 33-A, 33-B, 33-C, 37-A, 45D-A, and 65-A, and borings IR34B018, IR34B023, IR71B008, and PA45TA00. These areas are all depicted on Figure 2-1. This soil may be managed without restriction, subject to the protocol in Section 5.3.4.1 of this RMP unless an unexpected condition is encountered, such as evidence of free petroleum liquid or petroleum sheen on the soil, in which case, soil management will follow the protocol in Section 5.5.

2.2.1.3.6 Petroleum NFA Areas with Restrictions

There are no known Petroleum Corrective Action Areas with Restrictions on Parcel G.

2.2.2 Parcels UC-1 and UC-2

Parcel UC-1 includes a portion of Spear Avenue and is bounded on the north by Parcels A and D-2, on the east by Parcel UC-2, on the south by Parcels E and G, and on the west by Parcel UC-3 (Figure 1-1). Historically, most of the area associated with Parcels UC-1 and UC-2 has been a paved roadway or parking area. ParcelUC-1 is nearly completely paved and includes two buildings, associated asphalt parking areas, and a small unpaved hillside area. Parcel UC-2 includes portions of Fisher Avenue and Robinson Street and is bounded on the north, east, and south by Parcel C and on the west by Parcel UC-1 and former Parcel A. Historical use of the southern portion of Parcel UC-2 is as a roadway (Fisher Avenue), and the northern portion is as a triangularly shaped parking lot. The property is mostly paved, except for the steep unpaved hillside bordering Fisher Avenue, which is covered by vegetation (Navy, 2014b).

ED_006787_00010872-00021

2.2.2.1 Environmental Condition

Certain COCs remain in soil, soil vapor, and groundwater at Parcels UC-1 and UC-2 at levels and in conditions that the FFA Signatories have determined are consistent with the ROD Remedial Action Objectives.. The COCs that remain in soil at Parcels UC-1 and UC-2 include naturally occurring metals (specifically, arsenic and manganese) and PAHs (Navy, 2009a and 2009b). COCs for Parcels UC-1 and UC-2 in soil gas that remain include VOCs, (specifically, benzene, chloroform, and TCE, vinyl chloride and their degradation products; Navy, 2014c). COCs in groundwater in Parcel UC-2 include carbon tetrachloride and chloroform and are not anticipated to be present at levels that pose a health risk from dermal exposure and inhalation to construction workers (Navy, 2009a and 2009b). Notable environmental conditions are depicted on Figure 2-2.

2.2.2.2 CERCLA Remedy

The FOST documents that the CERCLA remedy in Parcels UC-1 and UC-2 is in place. The EPA, DTSC, and the RWQCB have concurred with the FOST (cite concurrence letters). Components of the remedy that remain to ensure that human health and environment are protected from potential long term health risks include:

- Durable Covers over the entire Parcel to prevent contact with residual ubiquitous metals. The Parcels UC-1 and UC-2 Durable Cover is defined as hardscape (e.g., asphalt, building foundations, concrete pads, sidewalks, etc.) or two feet of clean imported soil fill in the RODs (Navy, 2009a and 2009b), (Remedial Design (RD; Navy, 2010a), and RAWP (Navy, 2012).
- Groundwater monitoring at Parcel UC-2 to verify that natural attenuation continues to progress and to meet the RGs defined in the UC-2 ROD (Navy, 2009a).
- Land use and activity restrictions and institutional controls, implemented through a CRUP, to prevent or minimize exposure to residual COCs in the soil, soil gas, and groundwater. The entire Parcel includes restrictions related to the durable cover.

The requirements for inspection, maintenance, and reporting of these components of the remedy are provided in the O&M Plan for Parcels UC-1 and UC-2 (Navy, 2013). The

ED_006787_00010872-00022

O&M Plan requires that the owner conduct quarterly inspections for the first year following implementation and semi-annually thereafter and prepare an Annual Inspection Report to summarize the inspection findings for each year (Navy, 2013). These long term O&M obligations are independent of the RMP requirements.

The radiological corrective actions in Parcels UC-1 and UC-2 are complete and no radiological restrictions remain on Parcels UC-1 and UC-2. CDPH issued the Radiological Unrestricted Release Recommendation for Parcels UC-1 and UC-2 in 2011 stating that Parcels UC-1 and UC-2 are suitable for unrestricted use with respect to radiological constituents (DTSC, 2011).

2.2.2.3 Areas Subject to Special Protocols

The following areas on Parcels UC-1 and UC-2 are subject to Special Protocols as summarized above in Section 2.1.

2.2.2.3.1 Areas Requiring Location-Specific Construction Worker Health and Safety Protocol

There are no known areas requiring location-specific construction worker health and safety protocol on Parcels UC-1 and UC-2.

2.2.2.3.2 ARIC for VOCs in Soil Vapor

Parcels UC-1 and UC-2 include ARICs for VOCs in soil vapor as identified on Figure 2-2. Utility work in these areas must comply with standards and protocols as set forth in Sections 5.7.2 and 5.7.3 of the RMP.

2.2.2.3.3 Areas with COCs in Groundwater

Carbon tetrachloride and chloroform have been detected in groundwater at Parcel UC-2 (well IR06MW54F and IR06MW55F) but have not been associated with an identified source (Figure 2-2). Except for this localized area, Parcel UC-2 is upgradient of other areas of groundwater contamination at HPS. The ROD for Parcel UC-2 selected monitored natural attenuation as the remedy for the low concentrations of carbon tetrachloride and chloroform in groundwater in the vicinity of groundwater monitoring wells IR06MW54F and IR06MW55F. Groundwater is currently being

ED_006787_00010872-00023

monitored by the Navy at this location as a component of the Basewide Groundwater Monitoring Program. Soil gas sampling results collected in this area in 2010 identified that concentrations were below the level that would pose a risk to potential future residential receptors via vapor intrusion under documented site conditions. Work in these areas must comply with standards and protocols as set forth in Section 5.7.1 and 5.7.3 of the RMP.

2.2.2.3.4 Areas with COCs Above RGs or Petroleum PSC

There are no known areas with COCs in soil above RGs or PSC on Parcels UC-1 and UC-2.

2.2.2.3.5 Petroleum NFA Areas With No Restrictions

There are no known Petroleum NFA Areas on Parcels UC-1 and UC-2.

2.2.2.3.6 Petroleum NFA Areas With Restrictions

There are no known Petroleum NFA Areas with Restrictions on Parcels UC-1 and UC-2.

DRAFT

ED_006787_00010872-00024

3. RESTRICTED ACTIVITIES AUTHORIZED WITH CONDITIONS, REGULATORY OVERSIGHT, RMP MODIFICATIONS AND PUBLIC REPOSITORY

The Site consists of land that the Navy has divided into Parcels and each Parcel-specific CRUP defines the Restrictions for the Parcel. The Restricted Activities that are allowed without additional FFA Signatory approval as long as they are performed in compliance with this RMP are designated in this RMP as "Restricted Activities Authorized with Conditions" (Section 3.1). The Restricted Activities Authorized with Conditions does not modify any Restrictions in the CRUP for the Parcel.

The Owner must prepare a work plan and obtain FFA Signatory approval as described in Section 4.2 to engage in any Restricted Activity other than those activities specifically enumerated in this RMP as Restricted Activities Authorized with Conditions.

3.1 Restricted Activities Authorized with Conditions

This RMP authorizes the Owner to perform Restricted Activities Authorized with Conditions, provided that the Owner follows the environmental procedures and protocols set out in this RMP (see Section 5.0). The Restricted Activities Authorized with Conditions are:

- Any activity occurring on land that is less than one (1) acre in size (contiguous area) and involves movement of soil to the surface from below the surface of the land, or penetrates the Durable Cover, including, but not limited to excavation, grading, or other movement of soil.
- Excavation of soil from one location and placement at any other location on the Site so long as it is placed beneath an FFA Signatory approved Durable Cover (e.g., 2 feet of clean fill, asphalt cover, sidewalk, street, building foundation, etc.), as described further in Sections 5.2 and 5.3, subject to the limitations described in Section 5.3.4.2.
- After dedication and acceptance of public rights-of-way by the City, excavation in the public rights-of-way for purpose of installing, repairing, and maintaining

ED_006787_00010872-00025

the public rights-of-way, utilities and surface/subsurface facilities that are connected to the utilities and related appurtenances.

- Demolition or removal of "hardscape" (e.g., concrete or asphalt roadways, parking lots, building foundations, sidewalks, etc.) for a contiguous area less than one (1) acre in size. Following completion of hardscape removal, an FFA Signatory approved Durable Cover must be re-installed, as described in Section 5.2. Recognizing that development construction will be phased over a period of many years, the FFA Signatories require that a Durable Cover, or interim Durable Cover, be restored over a development site within 5 years of removal of the previously existing Durable Cover.
- Vertical Development in an area of the Site in which Horizontal Development has been completed pursuant to an FFA Signatory approved work plan, and which involves the movement of no more than 10,000 cubic yards of soil for a given Vertical Development Block.

Some specific examples of Restricted Activities Authorized with Conditions that can occur on sites of one acre or less include, but are not limited to:

- Excavation of trenches, potholes, or other movement of soil from the subsurface to the surface in support of the installation of new below grade utilities, foundations, or other foundational structures (e.g., sewer lines, water lines, storm water pump station wet wells, pile caps and/or grade beams, fences, etc.).
- Demolition of existing below grade, at grade, or above grade structures.
- Grading for the purpose of raising and/or lowering site grade, creation of building pads, fine grading activities in support of road installation, and associated excavating, loading, hauling, stockpiling and/or compacting soil.
- Pre-drilling for pile installation including drilling pilot holes through fill material prior to the installation of foundation piles.

Any activities that do not meet the above criteria or that cannot comply with the conditions presented in this RMP may occur only in accordance with a Work Plan approved by the FFA Signatories as described in Section 4.2.

ED_006787_00010872-00026

3.2 Regulatory Oversight

As stated in Section 1.0, the FFA Signatories are the USEPA, DTSC, RWQCB and the Navy. Under the FFA, the Navy is the lead federal agency for compliance with CERCLA, in consultation with the USEPA, DTSC and RWQCB. A contact list for the FFA Signatories is included in Appendix B.

Regulatory oversight by the FFA Signatories regarding implementation of the RMP includes, but is not limited to:

- Review and approval of modifications to the RMP, as described in Section 3.3.
- Performance of inspections to verify compliance with the RMP procedures and protocols.
- Review and approval of Work Plans to conduct Restricted Activities, as described in Section 4.2.
- Consultation and oversight of work involving unexpected conditions, as described in Section 5.5 and Appendix H.

3.2.1 Compliance with Requirements of Public Agencies That Are Not Parties to the FFA

The RMP identifies certain environmental procedures and protocols that must be followed when carrying out Restricted Activities and the circumstances under which compliance with the RMP satisfies the requirement in an applicable CRUP to obtain FFA Signatory approval to engage in a Restricted Activity. In addition to compliance with the Restrictions and other requirements of the CRUP, other federal, state, and City permitting and environmental regulations and procedures apply to the Site. The following is a list of state and local agencies that may have requirements for certain construction and maintenance activities, in addition to any requirements described in this RMP and the CRUP. This list is an example of potential state and local regulatory agencies and is not intended to be complete or all inclusive.

- Bay Area Air Quality Management District (BAAQMD) – air emissions and/or dust control for naturally occurring metals and naturally occurring asbestos (NOA), if applicable.

ED_006787_00010872-00027

- Bay Conservation and Development Commission – approval of repairs or modifications to the revetment wall within 100 feet of the San Francisco Bay shoreline (as defined in Section 66610 of The McAteer-Petris Act).
- SFDPH – monitoring well permitting, SFDPH Article 31 oversight, and SFDPH Article 22B.
- City and County of San Francisco Public Utilities Commission (SFPUC) – wastewater discharge permitting.
- California Occupational Safety and Health (Cal/OSHA) – worker health and safety.
- California Department of Fish and Wildlife – protection of endangered species.
- City and County of San Francisco, Oversight Board for the OCII – design review, CP/HPS Phase II Project.
- City and County of San Francisco Department of Building Inspection – building permitting.
- City and County of San Francisco Department of Public Works – permitting of structures in existing or future public right-of-ways and parks; subdivision approvals.
- City and County of San Francisco Municipal Transportation Agency – permitting of infrastructure related to transit and traffic management.
- City and County of San Francisco Fire Marshall – approval of infrastructure related to Fire Department emergency response.
- City and County of San Francisco, OCII, Successor Agency to the Redevelopment Agency – the intended recipient of the Site.
- RWQCB -CWA Section 401 Water Quality Certification.
- US Fish and Wildlife Service – protection of endangered species.
- US Army Corps of Engineers – approval of repairs or modifications to the revetment wall and storm drain outfalls below sea level.

ED_006787_00010872-00028

3.2.2 Agency Site Access

The FFA Signatories may elect to visit the Site, as needed, per the rights of enforcement in the CRUP(s) and rights of access described in the deed(s) and access requirements in federal and state statutes. The purposes of such visits may include, but are not limited to, confirming that the RMP procedures and protocols are being properly implemented.

3.3 Modifications to the RMP

The RMP is to be modified when a new Parcel is transferred from the Navy to OCII. Modifications to the RMP may also become necessary to address unanticipated future events, such as newly-identified chemicals of potential concern (COPCs) for which site-specific RGs have not been calculated, or in the event of a remedy failure. Additionally, based on the progress of remedial activities, modification or termination of specific conditions or controls stated in this RMP may be warranted.

Upon receipt of a proposal to modify the RMP by a User other than the FFA Signatories (see Section 1.2), the FFA Signatories will review the proposed changes, request any additional background information if needed, and issue a decision regarding the proposal within 45 (calendar) days of receiving any additional requested information.

The FFA Signatories may also propose modifications to the RMP based on new information that the RMP must address for the remedy to remain protective of human health and the environment. In the event the FFA Signatories propose a RMP modification, a draft of the proposed modification will be submitted to the SFDPH and Owners for review. The SFDPH and Owners shall review and provide comment on the proposed modifications within 60 days of the submittal by the FFA Signatories. The FFA Signatories, SFDPH and Owners will work collaboratively in good faith to develop modifications that are agreeable to all stakeholders.

The modified RMP will become effective immediately upon approval by the FFA Signatories and the modified RMP will be filed in the public repository (Section 3.4). If the proposed modifications are not agreed upon by the FFA Signatories, in consultation with the SFDPH, within 60 days, the RMP shall continue in its original form until the FFA Signatories come to a consensus on the appropriate modifications and notify the

ED_006787_00010872-00029

SFDPH of the modifications. Changes in notification personnel are not considered a modification to the RMP and do not require FFA Signatory approval.

3.4 Public Repository of RMP

A copy of this RMP and any RMP modifications will be available at the HPS information repositories indicated below, and on the SFDPH Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp). The HPS information repositories also contain the documents discussed in Section 2 and elsewhere in this RMP.

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, California 94102
Phone: 415-557-4500

Bayview/Anna E. Waden Branch Library
5075 Third Street
San Francisco, California 94124
Phone: 415-355-5757

DTSC file room
700 Heinz Avenue,
Berkeley, CA 94710.
Phone: 510-540-3800

Contact information for the FFA Signatories and the SFDPH is provided in Appendix B. Changes in contact information will be submitted to the SFDPH, which will be responsible for including the updated information on their SFDPH HPS Redevelopment website.

DRAFT

ED_006787_00010872-00030

4. REPORTING AND NOTICE PROTOCOLS

This section describes reporting and notification protocols that apply when the following circumstances arise:

- Annual Reporting of Restricted Activities Authorized with Conditions
- Preparation of a Work Plan for Restricted Activities requiring FFA Signatory approval (see Section 4.2).
- Discovery of unexpected environmental condition(s).

Notifications are the responsibility of the Owners. The relevant time periods for notifications and associated responsible entities are described below. Government entities with oversight responsibilities for certain aspects of the RMP but that are not one of the FFA Signatories are presented in Table 1.

4.1 Reporting for Restricted Activities Authorized with Conditions

An Annual Report, as described in Section 4.4, is required for the Site. The Annual Report shall include an accounting of the Restricted Activities Authorized with Conditions that occurred during the reporting period. Restricted Activities Authorized with Conditions are listed in Section 3.1. If unexpected areas of contamination or changes in the understanding of environmental conditions are discovered during the course of conducting Restricted Activities Authorized with Conditions, the Owner shall notify the FFA Signatories via the notification process described in Section 4.3 and will follow the procedures presented in the Unexpected Condition Response Plan (UCRP) (RMP Section 5.5 and Appendix H).

4.2 Obtaining Approval for Restricted Activities Which Require FFA Signatory Approval

Prior to conducting Restricted Activities that are not "**Restricted Activities Authorized with Conditions**", the Owner must submit a Work Plan to the FFA Signatories at least ninety (90) calendar days prior to the date the Owner wishes to commence the Restricted Activities. The Work Plan shall detail the specific activities to be conducted and the controls to be implemented to ensure safety and to protect and restore the integrity of the remedy. The FFA Signatories shall review and either approve or provide

ED_006787_00010872-00031

comments to the work plan within forty five (45) calendar days of receipt of the Work Plan. The Owner and FFA Signatories will resolve comments through written responses and in-person meetings as appropriate. The Owner shall obtain written approval of Work Plans from the FFA Signatories prior to commencement of field activities. Following completion of the Restricted Activities approved in the Work Plan, the affected portions of the remedy will be restored as described in Section 5 of the RMP.

All Work Plans to perform Restricted Activities submitted for FFA Signatory approval shall, at a minimum, include the following elements:

- Description of current site conditions;
- Description of all proposed work subject to the Work Plan, including (as applicable) horizontal development to be conducted by Owner and vertical development to be conducted by Owner or subsequent Owners;
- Appropriate exhibits and illustrations;
- An implementation schedule, including a submittal date for the Completion Report;
- A description of the protocol that will be implemented to protect and restore the integrity of the remedy during and following completion of the work, including:
    - Implementation of RMP plans and protocols and any site-specific plans and protocols prepared for the work;
    - Reporting on completion of milestones and various stages of work and remedy restoration;
    - Certifications by licensed professionals on remedy integrity restoration.

A Completion Report documenting the final configuration of the durable cover installed on the Site will be submitted to the FFA Signatories and the SFDPH for review and approval after the work is completed. The Completion Report shall include a modified O&M Plan to include updated O&M provisions associated with the newly installed durable cover configuration.

ED_006787_00010872-00032

4.3 Notification Requirements for Discovery of Unexpected Conditions

Unexpected conditions are defined in Section 5.5 and Appendix H. In the event that unexpected conditions are encountered in the field, the Owner shall notify the FFA Signatories as soon as practicable and in accordance with any legal notification requirements, but no later than two (2) days following the time at which the event became known to the Owner. Upon such notification, Owner shall provide any information that it may have regarding the Unexpected Condition to the FFA Signatories. After notification, the Owner shall take the steps outlined in Section 5.5 and the UCRP (Appendix H).

4.4 Annual Reports

An Annual Report is required to be submitted by the Owner to the FFA Signatories. Appendix C includes the Annual Report form that can be used by the Owner to report on the Restricted Activities Authorized with Conditions (Section 3.1) and risk management measures implemented during Restricted Activities (Section 5) that have been conducted over the previous year. The Owner's submittal of the forms in Appendix C, or equivalent forms containing the same information, with any additional explanation as required, will comply with the annual reporting obligations of this RMP. The Annual Report shall be submitted on or before March 30 of each year and will report on activities that occurred during the previous calendar year.

4.5 RMP Distribution to Parties Performing Subsurface Work on the Site

Owners shall provide a copy of the RMP to any party with the right to perform subsurface work on the Site, which may include, property management companies working on behalf of the Owner and future transferees. However, the Owner remains responsible for compliance with all aspects of the CRUP and this RMP.

ED_006787_00010872-00033

5. RISK MANAGEMENT MEASURES FOR RESTRICTED ACTIVITIES

The purpose of this section is to describe risk management measures that will be implemented by the Owner during Restricted Activities on the Site to ensure the integrity of implemented remedies during and following completion of construction. Activities that are subject to these measures include all Restricted Activities, including Restricted Activities Authorized with Conditions and Restricted Activities that require separate FFA Signatory approval. This section describes the specific measures that will be implemented to maintain the integrity of the remedy and to control potential impacts to human health and the environment associated with potential exposure to COCs that might be present in soil, soil vapor, and/or groundwater encountered during Restricted Activities, including construction associated with development and future maintenance that are conducted after the remedy has been put in place.

5.1 Construction Worker Health and Safety

This section addresses health and safety protocol for work on the Site.

5.1.1 General Health and Safety Protocol

Construction contractors, maintenance contractors, and utility contractors whose workers may contact potentially contaminated soil, soil vapor, or groundwater within the Site, are required to prepare site-specific Environmental Health and Safety Plans (EHSPs) under the direction of a Certified Industrial Hygienist (CIH) and in a manner consistent with applicable occupational health and safety standards, including, but not limited to OSHA 1910.120. The contractor-specific EHSPs will be maintained by the contractor at the Site. Nothing in this section is intended to relieve any person, including contractors or employers, of other mandated worker health and safety planning and training requirements under any federal, state, or local statute or regulations.

It is the responsibility of the contractor preparing their EHSP to review information available in the HPS information repositories (see Section 3.4) regarding site conditions and associated potential health and safety concerns (see Section 2.2 for each Parcel). It is also the responsibility of the contractor or other person preparing an EHSP to verify that the components of the EHSP are consistent with applicable Cal/OSHA occupational health and safety standards and currently available toxicological

ED_006787_00010872-00034

information for potential COCs at the work site. Contractor compliance with the RMP obligations will be specified in the contract documentation for the contractors performing subsurface work. Each contractor must require its employees who may directly contact potentially contaminated Site soil or groundwater to perform all activities in accordance with the contractor's EHSP. Each construction contractor will assure that its onsite construction workers will have the appropriate level of health and safety training, site-specific training, and will use the appropriate level of personal protective equipment (PPE) as determined in the relevant EHSP based upon the evaluated job hazards and monitoring results. An example EHSP outline is included in Appendix D.

5.1.2 Location-Specific Health and Safety Protocol

As identified for each Parcel, as applicable, (i.e., Sections 2.1.1, 2.2.1.3.1, and 2.2.2.3.1) the FFA Signatories have determined that soil beneath certain building foundations may contain unexpected levels of COCs that have been previously remediated in soil surrounding the buildings. Focused consideration should be given to such areas when identifying appropriate health and safety protocols and Personal Protective Equipment (PPE) for the protection of worker health and safety. In addition to the general health and safety protocols outlined in Section 5.1.1, location-specific protocols are required when the Owner is removing the building foundations or portions of building foundations in these limited areas and exposing the underlying soil. In such cases, the Owner will engage a full time third-party environmental professional to monitor the characteristics of the soil as the building foundation is being removed. The environmental professional shall physically observe the condition of the soil beneath the foundation (visual and olfactory characteristics) and may screen the soil using one or more field screening instruments as appropriate (Organic Vapor Monitor (OVM), Photoionization Detector (PID), X-Ray Fluorescence (XRF) analyzer, and gamma ray spectrometer, etc.). Field screening instruments will be employed if the soil is un-naturally discolored and exhibits a chemical odor. The monitoring will be focused on providing real-time field information on which decisions concerning worker health and safety protocol and PPE can be made. In the event that unexpected conditions are encountered, the Owner will follow the protocol described in Section 5.5 and Appendix H.

ED_006787_00010872-00035

5.2 Durable Cover Protocols: Hardscape and Landscaped Areas

This Section presents protocols to be followed when temporarily removing and then replacing the Durable Cover during Restricted Activities. At the time of Site transfer, the Navy will have established Durable Covers of several types. Existing concrete building foundations, asphalt, and concrete covers (e.g., existing roads and paved parking areas) will comprise a significant portion of these Durable Covers. Remaining areas, due to slope/topographic or access constraints, will have a minimum of two (2) feet of clean fill installed, which will serve as the Durable Cover. On occasion routine property maintenance work may be necessary in landscaped areas (e.g., irrigation installation or repair) within the two (2) feet of clean imported fill material that is the Durable Cover. To the extent that such property maintenance work remains completely within the two feet of clean imported fill (Durable Cover) and does not completely remove the Durable Cover or remove a demarcation layer (if it exists), the maintenance work will not be subject to the requirements of this RMP.

If the routine property maintenance work (e.g., major subgrade utility repairs, major building foundation modifications, etc.) requires the complete removal of the Durable Cover or the temporary removal and replacement such that the underlying soil becomes exposed, then the following protocol must be followed and documented in the Annual Report (Section 4.4). When digging in landscaped areas, workers will segregate any removed soil Durable Cover material from any removed HPS Bay Fill/Native Soil. Any removed HPS Bay Fill/Native Soil will be placed on a plastic barrier to prevent contamination of the underlying material (HPS Bay fill and Native Soil may be combined as the two will probably be indistinguishable). Disturbance of the soil Durable Cover must follow the RMP requirements including the Dust Control Plan (DCP) and, if applicable, the Soil Import Plan (SIP). The DCP is included in Appendix E and a SIP outline is included in Appendix F. In addition, the construction Storm Water Pollution Prevention Plan (SWPPP) must address potential for run-off from the exposed soil while the durable cover is removed (see Section 5.8). When routine maintenance is complete, workers must document that the soil Durable Cover was replaced with either the clean segregated soil or with two (2) feet of imported clean soil that meets SIP requirements. The durable cover is to be replaced within ten (10) business days of the completed routine maintenace work. Annual Report documentation is to include photographs of the work, measured Durable Cover thickness, elevation survey, and a statement signed by the person(s) performing the maintenance activities

ED_006787_00010872-00036

that the work was completed as per this Durable Cover Protocol; this documentation will be attached to the RMP annual report form.

It is the responsibility of each Owner to provide anyone working on the Site with a copy of this RMP prior to them performing any Restricted Activities and to ensure compliance with the RMP.

5.3 Soil Management Protocols

HPS Bayfill and Native Soil within the boundaries of the Site may be moved within the Site and soil from Parcel A may be moved from Parcel A onto the Site without prior FFA signatory approval or the need for sampling, if and only if such soil will be placed underneath the required Durable Cover. In the event that placement of soil underneath the required Durable Cover is not accomplished immediately upon its removal, such soil is to be stockpiled within the Site, with adequate protection, as further described in Section 5.3.1, below, or removed from the Site for offsite disposal. Soil will be designated for offsite disposal, only when there is a surplus of soil from mass grading or if it constitutes an unexpected condition as described in Section 5.5. RMP guidelines for off-site disposal are provided in Section 5.4 below.

Soil at documented locations with known residual COC concentrations above ROD RGs or Petroleump PSC must be managed as specified in Sections 5.3.3 and 5.3.4. Section 2.2 identifies such areas for each Parcel, as applicable.

Potential impacts from dust associated with the handling and movement of soil, soil compaction, soil stockpiling, off-haul, etc., will be addressed through the implementation of the DCP, described in Section 5.3.2 and included in Appendix E.

5.3.1 Soil Stockpile Management Protocols

Stockpiling of excavated HPS Bay Fill and/or Native Soil may be necessary on a temporary basis to support the logistical phasing of the redevelopment activities. Whenever possible, soil stockpiles will be located in close proximity to the work area or the ultimate disposition area as practicable within the Site. Stockpiles that contain contaminated soil will be placed on a physical barrier that prevents the contamination of the underlying soil. Examples of a physical barrier are a plastic membrane, concrete surface, or asphalt surface. Stockpiles will be labeled, covered, and monitored as

DRAFT

ED_006787_00010872-00037

documented in Appendix E (DCP) to prevent the windblown transport of contaminated dust from the stockpile. Occasionally, it may be necessary to temporarily place soil stockpiles outside the Site. When such occasion occurs, the Owner will request permission from the Navy to place soil stockpiles in areas that are still owned by the Navy.

Management of stockpiles containing hazardous substances and/or petroleum substances will include Site access control, storm water runoff control, and dust control requirements identified in this RMP. Access control will be accomplished as outlined in Section 5.10 of this RMP. Storm water runoff requirements will be specified in a project-specific SWPPP as identified in Section 5.8 of this RMP. The project specific SWPPP will be generated for each project involving earth disturbing activity and is incorporated herein by reference. The DCP that will apply to all work is summarized below and the detailed plan is included in Appendix E.

Stockpiles will be under control of the Owner at all times and inspected/monitored as specified in the SWPPP and DCP to ensure access control, dust control, and runoff control measures are functioning adequately. At a minimum, stockpiles will be monitored by the contractor at least weekly to verify that the various controls are in place and functioning as intended.

5.3.2 Dust Control Plan

The DCP identifies the measures that will be taken to reduce particulate emissions during demolition of existing structures, grading, soil handling and stockpiling, vehicle loading, utility work, truck traffic and construction of site infrastructure. The DCP has been prepared in accordance with the requirements in Article 31 of the San Francisco Health Code and certain BAAQMD regulations often applicable to redevelopment activities. Exposure of onsite construction workers to dust containing COCs will be minimized, and generation of nuisance dust will also be minimized to comply with Article 22B of the San Francisco Health Code. The DCP is attached as Appendix E.

NOA has been found in the serpentine bedrock and soil throughout the Hunters Point area. Large construction projects occurring within these areas are subject to the California Air Resources Board Airborne Toxic Control Measures (ATCM). For projects where surface soil will be disturbed in an area of one acre or larger (as defined

ED_006787_00010872-00038

in the ATCM), an Asbestos Dust Mitigation Plan (ADMP) will be submitted to and approved by the BAAQMD, as required. For projects less than one acre, an evaluation will be performed to determine whether an ATCM-compliant ADMP is required prior to initiation of potential dust generating activities.

5.3.3 Soil Management Protocols for Location-Specific Areas with COCs Above RGs or PSC

The FFA Signatories agreed to leave soil in place with COC concentrations above ROD RGs or Petroleump PSC in limited locations where the Navy and/or FFA Signatories have conducted a risk management evaluation and determined that potential health risks can be appropriately managed with the use of a Durable Cover. These locations are identified in Section 2.2 of this RMP for each Parcel, as applicable. If the existing Durable Cover above such soil is removed, the soil from the delineated areas identified in Section 2.2 must be handled in accordance with one or more of the following protocols:

- The soil may be left in an undisturbed condition and re-covered with a Durable Cover as soon as practical but in no event more than five years after removal without FFA Signatory approval.
- If the soil is disturbed, the soil must be excavated, segregated, and stockpiled. Stockpiled soil must be managed in accordance with the procedures described in Sections 5.3.1, 5.3.2, and 5.8 of this RMP. When appropriate in the development process, the Owner may choose to return the soil to the original location and depth from which it was excavated with the exception of utility corridors, and cover it with a Durable Cover. To reduce the impact from potentially contaminated soil during future utility maintenance, impacted material initially removed from utility corridors will be disposed at an appropriate offsite disposal facility. Utility corridors will only be backfilled with material that is not subject to this restriction.
- The Owner may choose, at any time, to dispose of the soil at an appropriate offsite disposal facility in compliance with the requirements of that facility and in accordance with all applicable State and Federal regulations (Section 5.4).

ED_006787_00010872-00039

5.3.4 Petroleum Areas Requiring No Further Action

As described in Section 2.2 for each Parcel, as applicable, the Navy has implemented corrective action at locations historically affected by petroleum releases and the RWQCB has granted NFA designations where corrective action has been successfully completed. In certain areas, the NFA designation is subject to restrictions. Soil management protocol is described below for NFA areas that are not subject to restrictions and for those subject to restrictions.

5.3.4.1 Petroleum NFA Areas with No Restrictions

Areas where petroleum releases were completely remediated or residual petroleum COCs remain in place below the Petroleump PSC (Shaw, 2007) were granted a NFA designation by the RWQCB without restrictions. These areas are identified in Section 2.2 for each Parcel, as applicable. Although soil in these areas may be discolored or exhibit a petroleum odor, absent the presence of unexpected conditions, soil in these petroleum NFA areas may be managed and moved in accordance with the general soil handling protocol set forth in Sections 3.1, 5.2 and 5.3. In the event unexpected conditions are encountered, in these areas, such as free petroleum liquid or petroleum sheen, the Owner must follow the unexpected condition protocol provided in Section 5.5 and Appendix H.

5.3.4.2 Petroleum NFA Areas with Restrictions

Certain location-specific areas on the Site where petroleum releases were remediated but petroleum COCs remained in place above the Petroleump PSC were granted a NFA designation by the RWQCB with restrictions. These locations are identified in Section 2.2 for each Parcel, as applicable. Impacted soil encountered in these locations may not be left in place and re-covered or placed elsewhere on or near the Site (except for temporary storage). This material must be handled in consultation with the RWQCB and in accordance with one or more of the following protocols, or as otherwise directed by the RWQCB:

- The soil may be removed and disposed off-site;
- The soil may be removed, treated to levels below the Petroleump PSC, and placed back onsite under the durable cover;

ED_006787_00010872-00040

- The soil may be contained (laterally and vertically) at the location in which it was discovered to prevent future migration of the separate phase product; or
- The Owner may conduct a site-specific evaluation of residual saturation to demonstrate the petroleum is not mobile (e.g., evaluate residual saturation) and does not pose a risk to human health and the environment.

5.4 Off-site Disposal of Soil and Wastes

Soil excavations will be required during construction of utility trenches, building foundations, and other facilities. It is likely that excavated soil will be reused within the Site for grading activities. As a result, off-site soil disposal should be limited. Any off-site soil disposal is subject to all applicable federal and state laws and regulations. All activities associated with waste disposal, such as truck loading, truck traffic, and decontamination of trucks leaving the facility will be performed in accordance with the DCP provided in Appendix E and any other applicable federal or state law or regulation.

The Owner or Owner's agent is responsible for characterization of any waste prior to transportation and off-site disposal. Characterization for disposal shall be in accordance with the requirements of Title 22 of the California Code of Regulations (CCR), Division 4.5, Chapter 11 and the requirements of the disposal facility and any other applicable law. Labeling requirements for transportation of waste shall additionally be in accordance with Title 29 of the Code of Federal Regulations, Parts 172 and 173 and any other applicable law.

All soil to be disposed will be taken only to a certified and permitted California landfill or an equivalent out-of-state landfill, as appropriate and as determined by the waste profile.

5.5 Unexpected Conditions

An Unexpected Condition is a condition observed in the soil, soil gas, and/or groundwater that indicates the potential for Hazardous Substances and/or petroleum hydrocarbons to exist beneath the Site at a location that has not previously been identified, characterized, or remediated by the Navy. By way of example, unexpected conditions may include visibly discolored soil, soil exhibiting a chemical odor, the

ED_006787_00010872-00041

presence of an oily sheen or separate-phase petroleum product in the soil or groundwater, unexpected subsurface structures, radioactive materials, buried munitions or munitions constituents, or other visual or olfactory evidence of a historical release not previously identified. If in the course of evaluating the Unexpected Condition, the soil exhibits a total TPH concentration equal or greater than the Navy's petroleum Source Criterion for soil (3,500 mg/kg total-total petroleum hydrocarbons; Shaw 2007), the soil will be managed as if it contains separate-phase petroleum product. The potential exists for encountering unexpected or unknown subsurface conditions within the Site during development construction. As part of the site-specific health and safety training that will be required of grading contractors and site construction workers, instruction will be given on how to identify and respond to potential unexpected conditions.

The UCRP (Appendix H) identifies how unexpected contamination shall be addressed in consultation with the SFDPH and FFA Signatories. Upon discovery of a potential unexpected condition, the Owner shall conduct an initial assessment to identify the nature of the condition. The initial preliminary assessment will be made in accordance with Section 1 of the UCRP. The nature of the condition will be described as one of two categories of conditions, as follows:

- **Category 1 Condition:** A Category 1 Condition could pose an immediate hazard to construction workers and warrants a timely and coordinated response between the developer, SFDPH, and the FFA Signatories. By way of example, Category 1 Conditions include radioactive materials and material potentially presenting an explosive hazard (MPPEH).
- **Category 2 Condition**: A Category 2 Condition is less likely to represent an immediate hazard to construction workers and warrants a response through the SFDPH in consultation with the FFA Signatories, as appropriate. By way of example, Category 2 Conditions include visual and/or olfactory evidence of hazardous substances and/or petroleum constituents in soil, soil gas, and/or groundwater.

If the condition is determined to be a Category 1 Condition, the Owner will stop work, secure the area, and notify the SFDPH and FFA Signatories within 24 hours of designating a Category 1 Condition. In the case of radioactive materials, the Owner will

ED_006787_00010872-00042

coordinate a response with the SFDPH and may request the Navy to take appropriate action. In the case of MPPEH, the developer will notify the SFDPH and the SF Police Department Bomb Squad to take appropriate action.

If the condition is a Category 2 Condition, the Owner will temporarily suspend work and notify the SFDPH and FFA Signatories of the condition. In making the notification, the Owner will provide any information that it may have regarding the condition. The Owner will then follow the steps outlined in Section 2.2 of the UCRP (Appendix H) in consultation with the SFDPH and FFA Signatories to address the condition.

In accordance with the site-specific EHSP, appropriate measures will be undertaken to ensure worker safety in areas where unexpected conditions are encountered. The Site Safety and Health Officer (SSHO) will be responsible for performing activity hazard analyses and evaluating any change in site conditions. The SSHO may stop work to determine if the level of site security and PPE is adequate.

5.6 Soil Import Criteria

All soil imported from areas outside HPS will be subject to sampling and soil quality controls established in a SIP. A SIP outline is included as Appendix F. The SIP will include reference to the DTSC's October 2001 Clean Imported Fill Material Information Advisory. Soil import criteria will meet the most recent USEPA Regional Screening Levels (RSLs) for residential soils (USEPA, May 2014) or the California RWQCB Environmental Screening Levels (RWQCB, December 2013) (ESLs) that are applicable at the time work is being conducted. For Total Petroleum Hydrocarbons (TPH), the soil import criteria will meet the most recent Tier 1 ESL for TPH as gasoline, diesel, and motor oil, respectively. Soil with COC concentrations that are equal to or below their respective RSL or Tier 1 ESL is approved for import and will be suitable for use as a Durable Cover.

5.7 Groundwater and Soil Vapor Management Protocols

Localized areas of groundwater contamination and ARICs for VOC vapors have been identified within the Site. These areas are identified in Section 2.2 for each Parcel, as appropriate. Protocols for each of these conditions are outlined in the following Sections.

ED_006787_00010872-00043

5.7.1 Groundwater Protocols

Appendix G contains a Groundwater Management Plan (GMP) outline that will be used to prepare a Groundwater Management Plan that will be submitted for review and approval by the FFA Signatories prior to conducting any activity that will encounter groundwater. At the time of implementation of the RMP, the most recent groundwater monitoring data available will be evaluated by the Owner or their designee, who is a registered professional, prior to the initiation of the Restricted Activity to identify areas where groundwater contamination may be present and to determine the appropriate protective measures to address worker safety, prevent the movement of any residual groundwater contamination, and potential vapor intrusion.

This section describes groundwater protocols to follow during performance of Restricted Activities. All activities discussed below will require notification in accordance with the protocols described in Section 4.

5.7.1.1 Temporary Dewatering Activities

Current development plans include utility trenches and below grade parking lots to support the installation of utilities, construction of parks, and residential and commercial development. Due to the depth of these proposed excavations, temporary construction dewatering may be necessary. A GMP will be prepared by each Owner executing the construction effort. A draft GMP will be submitted to the FFA Signatories for review and approval. A GMP outline is provided in Appendix G.

If it is determined via the procedure outlined in the GMP that construction necessitates the use of temporary dewatering, and the dewatering activities may occur in or around an area of known groundwater contamination, the FFA Signatories will be notified in accordance with Section 4 of this RMP. With that notification, a work plan discussing the dewatering scope and activities will be submitted for FFA Signatories' review and approval in accordance with Section 4.2 of this RMP. As a general guide, the following risk management protocols will be included in the work plan:

- Conduct preliminary estimates of the amount of water that will need to be removed and the duration of pumping for the specific construction activity.

ED_006787_00010872-00044

- Review of available groundwater monitoring data to evaluate groundwater quality in the vicinity of the planned dewatering activities.
- Based on the location of the proposed dewatering, a Professional Engineer or Geologist licensed in the State of California will evaluate whether the volume of water that would need to be removed would result in the enlargement of an existing groundwater plume or significant alterations in the groundwater flow patterns.
- If the volume estimates, duration estimates, and location of the groundwater dewatering suggest that such activities are not likely to result in the enlargement of a groundwater plume or significant alterations in flow patterns, then simple dewatering methods, such as those employed through the use of a sump pump, may be proposed to prevent groundwater from accumulating in an open excavation.
- If, based on the results of analysis, dewatering may result in enlargement of an existing groundwater plume, or result in significant alterations to groundwater flow in the vicinity of a plume, then other engineering techniques will be proposed to minimize the impacts to the known plume configuration. The proposed engineering technique will depend on the construction specifications and other site-specific factors, and will be determined by the Owner's State of California, licensed Professional Engineer or Geologist on a site-by-site basis.
- Water removed during dewatering activities will be sampled and tested for profiling and the water disposed of in accordance with applicable permits and regulations. Disposal options may include pre-treatment and discharge into the City's sanitary sewer system under a SFPUC batch wastewater discharge permit. Compliance with provisions of any discharge permit is the responsibility of the Owner.
- The results of the analysis, plans for dewatering, and disposition of accumulated groundwater will be contained in the notification to the FFA Signatories.

5.7.2 ARIC for VOCs in Soil Vapor Protocols

The FFA Signatories have designated certain areas of the Site as an ARIC for VOCs in soil vapor (VOC ARIC; see Section 2.2). Prior to construction of any new enclosed

DRAFT

ED_006787_00010872-00045

occupied structure within the VOC ARIC, Owner shall obtain approval by the FFA Signatories of vapor mitigation engineering controls or design alternatives to be incorporated in that structure. In addition, prior to conducting utility work in the VOC ARIC, the Owner must notify the FFA Signatories and follow the protocols described in Section 5.7.3 to prevent the creation of a conduit for contamination to spread.

Any Owner may apply at any time to the FFA Signatories for a modification of the VOC ARIC. Such application shall involve submission of a soil vapor sampling work plan for review and approval by the FFA Signatories.

5.7.3 Prevention of the Potential for Creation of Conduits

As much as practicable, installation of subsurface utilities in areas of known groundwater contamination or in ARICs for VOCs in soil vapor will be avoided. The presence of such trenches through an area of known groundwater or soil vapor contamination may create a horizontal conduit for the migration of COCs. Prior to subsurface utility trench installation, existing groundwater monitoring and soil vapor data will be evaluated by a Professional Engineer or Geologist licensed in the State of California to identify areas where contaminant plumes remain at the Site.

If the trenches extend into the areas of known groundwater contamination or ARICs for VOCs in soil vapor as identified in Section 2.2 for each Parcel, as appropriate, the FFA Signatories will be notified. For new subsurface utilities placed in the areas of known groundwater contamination or ARICs for VOCs in soil vapor, the pipe joints of non-pressurized utilities (e.g., sanitary sewer, storm drain) will be adequately sealed to prevent COCs in groundwater or soil vapor from entering the buried piping, and all materials will be selected to ensure the integrity of the piping when in contact with known COCs. Best management practices for engineered barriers in utility trenches to mitigate the potential for vapor and groundwater migration along utility corridors will be considered and installed, as appropriate. The findings of the groundwater and soil vapor evaluation and the method for managing the groundwater and soil vapor will be presented to the FFA Signatories and the SFDPH for review and approval prior to construction.

Consistent with Section 4.2, the Owner must prepare a work plan and obtain FFA Signatory approval to engage in Restricted Activities, not authorized under this RMP.

ED_006787_00010872-00046

Work plans for new proposed construction shall address the potential for the new planned construction to create new pathways for vapor intrusion into occupied buildings using the most recent groundwater and soil vapor sampling results and regulatory requirements available. If necessary, the work plan shall address measures to protect future building occupants through engineering controls or design alternatives in the utility trenches and/or building foundation systems.

5.8 Storm Water Management Controls

A construction SWPPP will be required prior to the start of construction activities. The SWPPP will provide the framework for contractors performing work at the Site. The Construction SWPPP must conform to the requirements of the California State Water Resource Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00002, Waste Discharge Requirements (WDRs) for Discharges of Stormwater Runoff Associated with Construction and Land Disturbance Activities, and the City MS4 permit. As required, a Notice of Intent (NOI) shall be filed with SWRCB prior to commencement of regulated construction work. Compliance with the SWPPP will be maintained throughout the duration of the construction work. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD) per Section VII of the 2009-0009-DWQ Permit: (http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/construction.shtml).

5.9 Groundwater Monitoring Well Protocols

Monitoring wells associated with the groundwater monitoring programs are present within HPS and additional wells associated with remedial activity monitoring may be installed. Prior to the initiation of any demolition or earth-disturbing activities, the presence of groundwater monitoring wells will be identified. A map showing the locations of monitoring wells within HPS may be found in the HPS information repositories (Section 3.4) and on the SFDPH Hunters Point Shipyard Redevelopment website. Current monitoring wells located on the Site known as of the date of this RMP are presented in Figure 1-1.

A work plan, prepared by a Professional Engineer or Geologist licensed in the State of California must be submitted for FFA signatory review and approval prior to the

DRAFT

ED_006787_00010872-00047

commencement of any Restricted Activity related to monitoring wells which may include but not be limited to abandonment of, unintentional damage to, or replacement of groundwater monitoring wells. Only the FFA signatories can decide that a well that was installed as a part of the groundwater remedy is no longer needed or can be relocated. Assuming that regulatory approval for the work is obtained, any well that is part of a remedial action that is damaged or abandoned during construction must be replaced within sixty (60) calendar days unless the FFA signatories grant an extension.

The Owner is also responsible for providing access for the FFA signatories to the monitoring wells for the purposes of sampling and maintenance. Thus, regulatory approval must be obtained prior to any action that will bar access to a monitoring well for a period of greater than seven (7) calendar days.

The following sections describe the protocols for abandonment or replacement of groundwater monitoring wells and the protocols to follow to protect existing groundwater monitoring wells.

5.9.1 Abandonment of Existing Monitoring Wells

Prior to the abandonment of groundwater monitoring wells, approval must be obtained from the FFA Signatories, and if requested, replacement well locations must be selected in coordination with the FFA Signatories. If an existing groundwater monitoring well cannot be preserved, the well will be abandoned in accordance with applicable State and SFDPH regulations and these abandonment protocols will be referenced in the work plan submitted to the FFA Signatories. The Owner is responsible for obtaining all appropriate permits and approvals.

Following abandonment of groundwater monitoring wells, a completion report will be prepared by a Professional Engineer or Geologist licensed in the State of California describing the abandonment procedures and submitted to the FFA Signatories. The report will include:

- The well location;
- Photographic documentation of the abandonment;

ED_006787_00010872-00048

- A description of the well destruction activities, including rationale for abandonment;
- All associated permits and waste disposal manifests, if necessary; and
- Department of Water Resources (DWR) well completion and abandonment reports.

5.9.2 Replacement of Monitoring Wells

Any required replacements of abandoned monitoring wells, which are part of an ongoing groundwater monitoring network, will be re-installed within sixty (60) days of the prior well's abandonment date unless the FFA Signatories grant an extension. Replacement wells will be located as close as possible and constructed in the same manner as the original well, and will monitor, to the extent possible, the same groundwater zone as the original well. The Owner is responsible for obtaining all appropriate permits and approvals, and providing notification to the Navy. It will be the responsibility of the Navy to update the Basewide Groundwater Monitoring Plan in response to changes in monitoring well location.

Prior to the replacement of an abandoned well, a work plan, prepared by a Professional Engineer or Geologist licensed in the State of California, will be submitted to the FFA Signatories. The work plan will include soil management protocols, sampling and analysis requirements for waste profiling, monitoring procedures, health and safety requirements, the boring log of the original well (obtained from the HPS information repositories), proposed well construction details, and will describe procedures to be followed during installation of the replacement well. The location of the replacement well must be approved by the FFA Signatories.

Following installation of the replacement well(s), a monitoring well installation completion report will be submitted to the FFA Signatories. The report will include, among other things:

- Well location;
- Identification of driller and drilling procedures;
- DWR Well Completion Report;

ED_006787_00010872-00049

- Decontamination procedures;
- Well installation procedures;
- Lithologic log;
- Well development procedures;
- Horizontal location coordinates and vertical elevation of top of casing;
- Well completion details (depth, screen interval, materials used, materials used, surface completion, etc.);
- Initial water level measurement;
- Well sampling, if necessary;
- Permitting information; and,
- Disposition of installation-derived wastes.

The report shall be signed by a Professional Engineer or Geologist licensed in the State of California.

5.9.3 Measures to Protect Monitoring Wells

Existing monitoring wells that are not removed prior to earthwork will be located, marked, and protected by the Owner or other contractors or entities designated by the Owner. All monitoring wells will be addressed in this manner before starting construction anywhere within the Site. Monitoring wells will be marked with brightly colored paint if flush with the ground surface or blockaded with painted steel pipes or bollards if finished above ground surface. The pipes and bollards will extend above ground not less than 4 feet so as to be easily visible. All wells will be kept locked.

5.10 Access Control during Construction and Maintenance Activities

Access to the site during construction and maintenance activities will be limited to authorized personnel in compliance with EHSP requirements (Section 5.1). The potential for trespassers or visitors to gain access to construction areas and come into direct contact with potentially contaminated soil or groundwater will be controlled through the implementation of the following access and perimeter security measures:

DRAFT

ED_006787_00010872-00050

- Except in streets, security fencing will be placed around any Site without a FFA Signatory approved Durable Cover or where the Durable Cover has been disturbed to prevent pedestrian/vehicular entry except at controlled (gated) points. Gates will be closed and locked during non-construction hours. Fencing will consist of a 6-foot chain link or equivalent fence unless particular safety considerations warrant the use of a higher fence. Use of fences during small routine maintenance activities will be determined in the EHSP.
- In streets, use a combination of K-rails or similar barriers and fences with locked gates.
- Post "No Trespassing" signs every 200 feet.
- Post signs every 200 feet warning that the area within the fenced areas may contain chemicals that may be harmful to human health.
- "No Trespassing" and warning signs should be in multiple languages commonly spoken in the local community and should include a phone contact.

Implementation of appropriate site-specific measures as outlined above will reduce the potential for trespassers or visitors to gain access to construction areas and to come into direct contact with soil or groundwater. Compliance with the specific access control measures is the responsibility of the Owners

5.11 Measures to Protect Shoreline Improvements

Construction and maintenance activities in shoreline areas may include maintenance or improvements to revetment walls, rip rap, sheet piles, quay walls, or bulkheads at the bay margin. Work performed in these areas will be required to conform to the Durable Cover and/or revetment walls designs described in the RD Package reports and the RAWP. All appropriate Navy documents must be consulted and the FFA Signatories notified no later than 10 days prior to conducting work within 100 feet of the shoreline to determine the applicable requirements.

ED_006787_00010872-00051

6. REFERENCES

Arcadis, 2012. Remedial Action Work Plan for Parcel G, Hunters Point Naval Shipyard, San Francisco, California. December.

California Department of Public Health (CDPH), 2012. Radiological Unrestricted Release Recommendation Memorandum for Parcel G. 30 March.

California Department of Toxic Substance Control (DTSC), 2011. Radiological Free Release for Parcels UC-1 and UC-2, Hunters Point Shipyard, San Francisco, California. 14 September.

Department of the Navy (Navy), 2014a. Finding of Suitability to Transfer for Parcel G, Hunters Point Naval Shipyard, San Francisco, California.

Navy, 2014b. Finding of Suitability to Transfer for Parcels UC-1 and UC-2, Hunters Point Naval Shipyard, San Francisco, California.

Navy, 2014c. Technical Memorandum Soil Vapor Investigation in Support of Vapor Intrusion Assessment at Parcel UC-1, Hunters Point Naval Shipyard, San Francisco, California. August.

Navy, 2014d. Operation and Maintenance Plan for Parcel G Hunters Point Naval Shipyard, San Francisco, California. May.

Navy, 2014e. Remedial Action Completion Report, Durable Cover, Groundwater Treatment, and Institutional Controls for Parcel G, Hunters Point Naval Shipyard, San Francisco, California. March.

Navy, 2014f. Semiannual Groundwater Monitoring Report, (July – December 2014), Hunters Point Naval Shipyard, San Francisco, California. April.

Navy, 2013. Operation and Maintenance Plan, Parcels UC-1 and UC-2, Hunters Point Naval Shipyard, San Francisco, California. 24 April.

Navy, 2012. Remedial Action Work Plan for Parcels UC-1 and UC-2, Hunters Point Naval Shipyard, San Francisco, California. 4 June.

ED_006787_00010872-00052

Navy, 2010a. Remedial Design Package Parcels UC-1 and UC-2, Hunters Point Shipyard, San Francisco, California. 22 December.

Navy, 2010b. Remedial Design Package Parcel G, Hunters Point Shipyard, San Francisco, California. 4 October.

Navy, 2010c. Parcels D-1 and G Groundwater Treatability Study Technical Report, IR-09, IR-33, AND IR-71, Hunters Point Shipyard, San Francisco, California. March.

Navy, 2009a. Record of Decision for Parcel UC-2, Hunters Point Shipyard, San Francisco, California. 17 December.

Navy, 2009b. Record of Decision for Parcels D-1 and UC-1, Hunters Point Shipyard, San Francisco, California. 24 July.

Navy, 2009c. Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, California. February.

Navy, 2007. Revised Feasibility Study for Parcel D, Hunters Point Shipyard, San Francisco, California. 30 November.

Navy, 1992. Federal Facilities Agreement, Hunters Point Shipyard.

Regional Water Quality Control Board (RWQCB), 2014. Approval of Final Remedial Action Completion Report, Parcel G, Hunters Point Naval Shipyard, San Francisco, California. Email from Tina Low, Water Board to Mahbub Hussain, U.S. Navy. 26 February.

RWQCB, 2013. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater; 23 December Update to Environmental Screening Levels. December.

RWQCB, 2011a. No Further Action for Area of Concern (AOC) 37-A, Parcel G, Hunters Point Naval Shipyard, San Francisco County. 22 July.

ED_006787_00010872-00053

RWQCB, 2011b. No Further Action for Boring of Concern (BOC) IR34B018, Parcel G, Hunters Point Naval Shipyard, San Francisco County. 3 August.

RWQCB, 2011c. No Further Action for Area of Concern (AOC) 45D-A and Borings of Concern (BOCs) IR44B009, PA45TA00, and IR71B008, Parcels D-1 and G, Hunters Point Naval Shipyard, San Francisco County. 3 August.

RWQCB, 2011d. No Further Action for Area of Concern (AOC) 33-A, Parcel G, Hunters Point Naval Shipyard, San Francisco County. 4 August.

RWQCB, 2011e. No Further Action for Area of Concern (AOC) 33-B, Parcel G, Hunters Point Naval Shipyard, San Francisco County. 5 August.

RWQCB, 2011f. No Further Action for Boring of Concern (BOC) IR34B023, Parcel G, Hunters Point Naval Shipyard, San Francisco County. 7 September.

RWQCB, 2011g. No Further Action for Area of Concern (AOC) 65-A, Parcel G, Hunters Point Naval Shipyard, San Francisco County. 5 October.

RWQCB, 2011h. No Further Action for Area of Concern (AOC) 33-C, Parcel G, Hunters Point Naval Shipyard, San Francisco County. 6 October.

Sealaska Environmental Services, LLC (Sealaska), 2013. Final Technical Memorandum, Soil Vapor Investigation In Support Of Vapor Intrusion Assessment, Parcels B, D-1, G, and UC-2, Hunters Point Naval Shipyard, San Francisco, California. March.

Shaw Environmental Inc. (Shaw), 2007. Final New Preliminary Screening Criteria and Petroleum Program Strategy, prepared on behalf of the Navy 21 December 21.

U.S. Environmental Protection Agency (USEPA), 2014. Approval of Final Remedial Action Completion Report, Parcel G, Hunters Point Naval Shipyard, San Francisco, California. Email from Craig Cooper, EPA to Mahbub Hussain, U.S. Navy. 20 February.

USEPA, 2014. Regional Screening Levels. May.

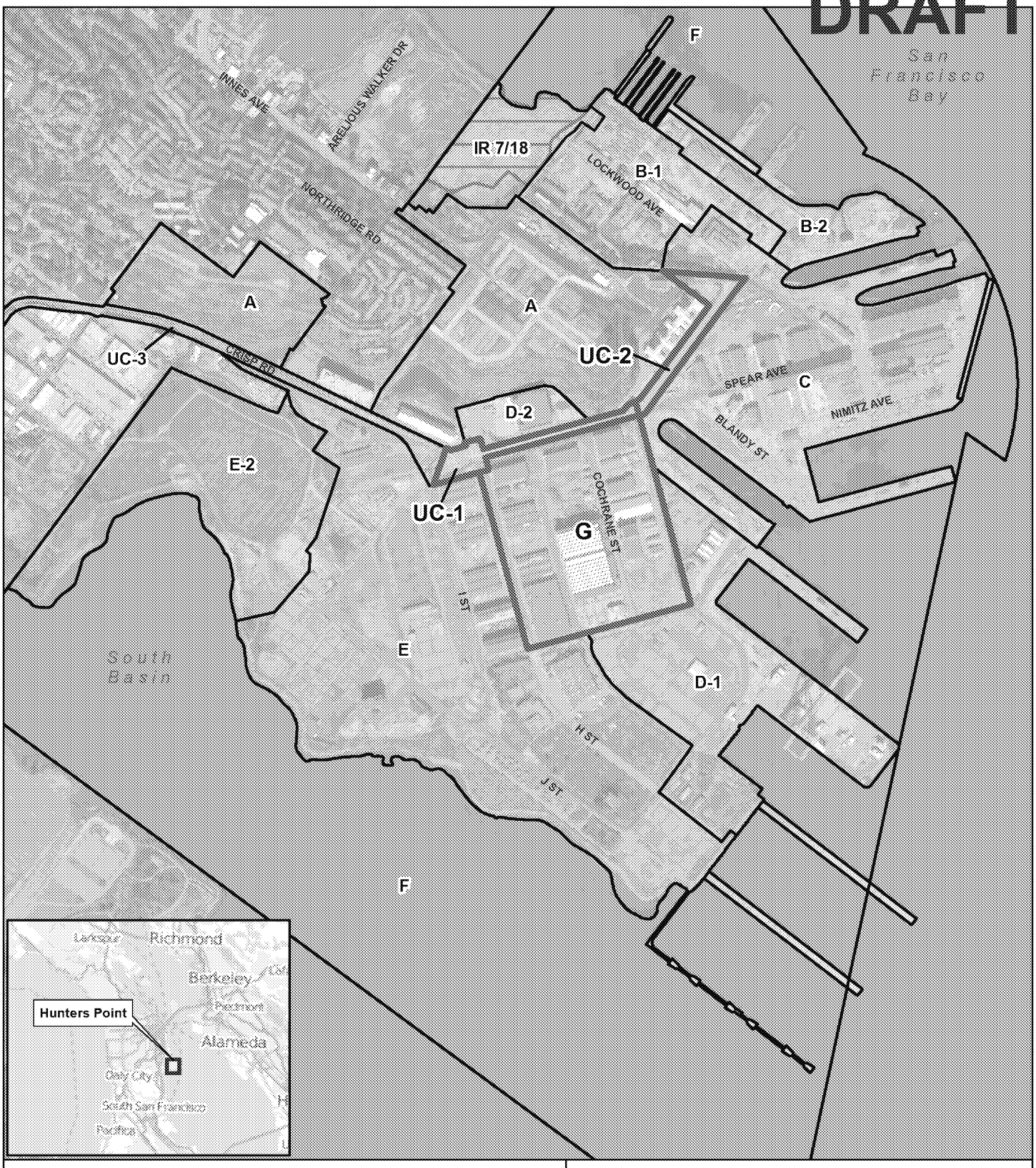
ED_006787_00010872-00054

TABLES

TABLE 1
GOVERNMENT ENTITIES WITH INDEPENDENT RISK MANAGEMENT PLAN OVERSIGHT RESPONSIBILITIES

RMP Element	Responsible Oversight Agency	Additional Comments
Construction Worker Health and Safety	California Occupational Health and Safety Administration (Cal-OSHA)	Subject to OSHA 1910.120
Dust Control	San Francisco Department of Public Health (SFDPH)	Subject to the requirements of Article 31 of the Health Code
Asbestos Dust Mitigation Plans	Bay Area Air Quality Management District (BAAQMD)	Subject to the Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining.
Storm Water and Groundwater Management	Regional Water Quality Control Board	Subject to the storm water General Permit.
Groundwater Discharges to Sanitary Sewer	San Francisco Public Utilities Commission (SFPUC)	Subject to the SFPUC Batch Wastewater Discharge Permit.
Permits to engage in subsurface work	SFDBI or SFDPW	Subject to the requirements of Article 31 of the Health Code

FIGURES



Legend

- Site Boundary
- Navy Parcel Boundary
- License Exemption Requested

N

0 1,000 Feet

Basemap source: ESRI, 2014

Site Boundary

Risk Management Plan
Hunters Point Shipyard, San Francisco, CA

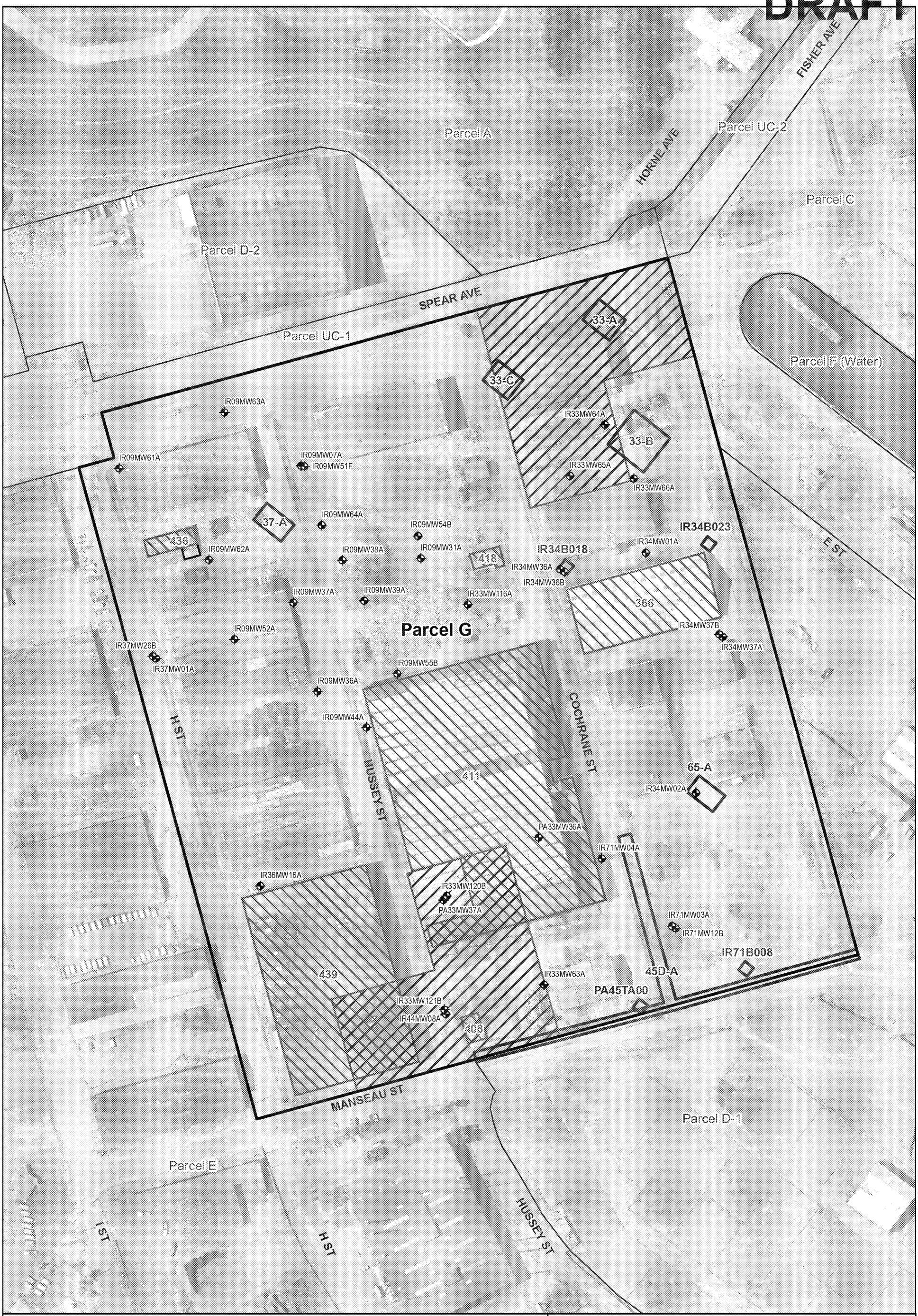
Geosyntec consultants

WR1247A	November 2014

Figure 1-1

P:\GIS\Lennar\HuntersPoint\Project\Environmental Constraints\Parcels_G_UC-1_UC-2\Fig1-1_PropertyBoundary.mxd

DRAFT



Legend

- Existing Groundwater Monitoring Well
- ARIC for VOC Vapors (See RMP Section 2.2.1.3.2)
- Location-Specific Construction Worker Health and Safety Protocol Required (See RMP Section 2.2.1.3.1)
- Petroleum NFA Areas with No Restrictions (See RMP Section 2.2.1.3.5)
- Navy Parcel Boundary

Notes:
ARIC = Area Requiring Institutional Controls
COC = constituent of concern
NFA = No Further Action
VOC = volatile organic compound
Basemap source: ESRI, 2014

N

0 180 Feet

Parcel G Environmental Conditions

Risk Management Plan
Hunters Point Shipyard, San Francisco, CA

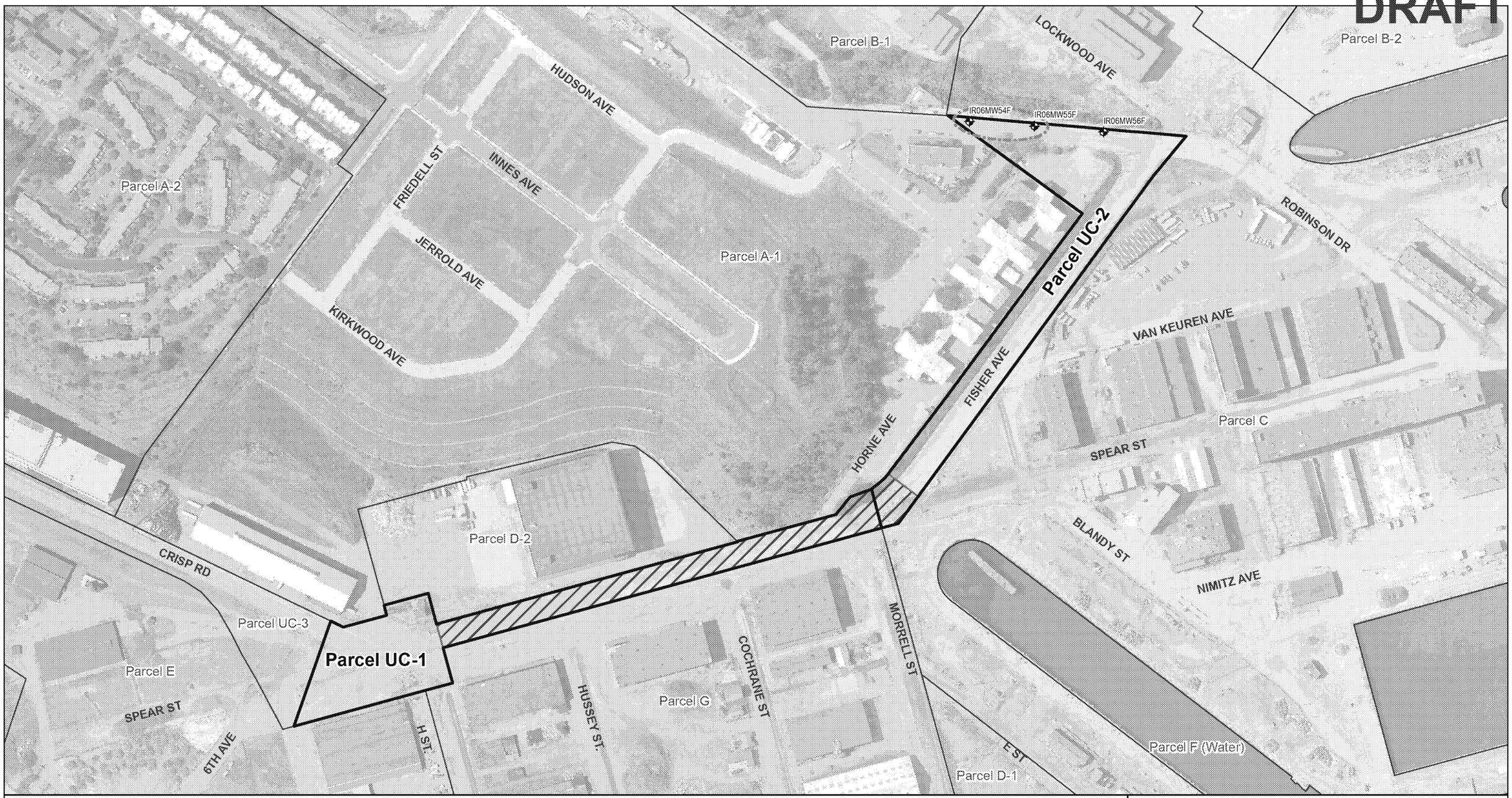
Geosyntec consultants

WR1247A | November 2014

Figure 2-1

P:\GIS\Lennar\HuntersPoint\Project\Environmental Constraints\Parcels_G_UC-1_UC-2\Fig2-1_ParcelG_CERCLA_Conditions.mxd

DRAFT



Legend

- Existing Groundwater Monitoring Well
- Area with COCs in Groundwater (See RMP Section 2.2.2.3.3)
- ARIC for VOC Vapors (See RMP Section 2.2.2.3.2)
- Navy Parcel Boundary

Notes:
ARIC = Area Requiring Institutional Controls
COC = constituent of concern
VOC = volatile organic compound
Basemap source: ESRI, 2014

N

0 240 Feet

Parcels UC-1 and UC-2 Environmental Conditions

Risk Management Plan
Hunters Point Shipyard, San Francisco, CA

Geosyntec consultants

WR1247A | November 2014

Figure **2-2**

P:\GIS\Lennar\HuntersPoint\Project\Environmental Constraints\Parcels_G_UC-1_UC-2\Fig2-2_UC-1_UC-2_CERCLA_Conditions.mxd

APPENDIX A
Definition of Terms

APPENDIX A
Definition of Terms

The following are definitions for terms listed in the RMP:

Covenant: "Covenant" shall mean the Covenant to Restrict Use of Property, Environmental Restriction (also referred to as the CRUP).

Covenantor: "Covenantor" shall mean the United States of America acting through the Department of the Navy.

Durable Cover: "Durable cover" shall mean hardscape (e.g., asphalt, buildings, sidewalks, etc.) or a minimum of two feet of clean imported fill that is constructed over HPS Bay Fill or Native Soil, as defined in the ROD for each Parcel.

FFA Signatories: "FFA Signatories" shall mean the agencies that signed the Federal Facilities Agreement (FFA), namely the U.S. Environmental Protection Agency (EPA), California Department of Toxic Substances Control (DTSC), California Regional Water Quality Control Board (RWQCB), and the U.S. Department of the Navy (Navy).

Hazardous Substances: "Hazardous Substances" shall have the meaning provided in section 101 of the Comprehensive Environmental Response, Compensation, and Liabilities Act of 1980 (CERCLA), 42 U.S.C. § 9601(14).

Horizontal Development: "Horizontal Development" shall mean development of the Site in preparation for Vertical Development pursuant to a work plan approved by the FFA Signatories. Horizontal Development includes but is not limited to such activities as demolition and removal of hardscape, mass grading, soil compaction and surcharging, creation of building pads, construction of utilities, and construction of new ground level hardscape such as roads and sidewalks.

HPS Bay Fill: "HPS Bay Fill" shall mean non-native historically imported fill that was placed bay ward of the original shoreline and/or placed on top of native bedrock and soil to create the current footprint of HPS. The HPS Bay Fill potentially contains naturally occurring asbestos and naturally occurring metals and must remain under the Durable Cover as documented in the Remedial Action Work Plan for the Site. The term

ED_006787_00010872-00062

HPS Bay Fill DOES NOT mean: i) bedrock especially bedrock outcrops as identified in the Navy Remedial Action Work Plans that were specifically excluded from requiring a durable cover; ii) any imported soil, which has been certified to meet soil importation criteria, and was used to build the durable cover (i.e. a minimum of two feet of clean imported fill); iii) clean soil that has been imported by the Navy, meaning it has been certified to meet soil importation criteria, and used as backfill in conjunction with any prior Navy removal or remedial action (e.g. soil excavation areas).

Native Soil: "Native soil" shall mean any soil that was deposited through natural processes.

Owner: "Owner" shall mean the Covenantor's successors in interest, and their successors in interest, including heirs and assigns, who at the time have a record fee interest in the Property, or any portion thereof.

Parcel: "Parcel" shall mean a portion of the Site as defined in the Navy Finding of Suitability to Transfer (FOST) documents.

Petroleum Substances: "Petroleum Substances" shall mean crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under CERCLA.

Restricted Activities: "Restricted Activities" shall mean any activities that are subject to Restrictions under a CRUP unless prior written approval for the activity is granted by the FFA Signatories.

Restrictions: "Restrictions" shall mean protective provisions, covenants, restrictions and conditions imposed on any portion of the Site under a CRUP entered into between the Navy and DTSC and the Deeds that convey the Site from the Navy to the City.

Site: "Site" shall mean the area subject to the RMP as illustrated in Figure 1-1.

Unexpected Conditions: An "Unexpected Condition" is a condition observed in the soil, soil gas, and/or groundwater that indicates the potential for Hazardous Substances and/or Petroleum Substances to exist beneath the Site at a location that has not previously been identified, characterized, or remediated by the Navy.

ED_006787_00010872-00063

Vertical Development: "Vertical Development" shall mean construction of facilities, structures, and appurtenances, and shall include associated excavation, fine grading, and utility work.

Vertical Development Block: "Vertical Development Block" shall mean a portion of the Site greater than one acre that has undergone Horizontal Development and has been transferred to a developer for Vertical Development.

DRAFT

ED_006787_00010872-00064

APPENDIX B

CONTACT INFORMATION

APPENDIX B
Contact Information

FAA Signatory Points of Contact

DTSC

Hunters Point Project Manager
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710
Phone: 510-540-3775

RWQCB
Hunters Point Project Manager
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Phone: 510-622-3966

U.S. EPA
Hunters Point Program Manager
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
Phone: 415-942-3005

U.S. Navy
BRAC Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Phone: 619-532-0913

DRAFT

ED_006787_00010872-00066

Other Points of Contact

City and County of San Francisco Department of Public Health
Hunters Point Project Manager
1390 Market Street, Suite 210
San Francisco, CA 94102
Phone: 415-252-3800

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
(415) 771-6000 | 1-800-HELP AIR

California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825
Phone: 916-574-1900

U.S. Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103
Phone: 415-503-6773

U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
Phone: 916-414-6464

San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111
Phone: 415-352-3600

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, CA 94102
Phone: 415-557-4500

DRAFT

APPENDIX C
Annual Report Form

RISK MANAGEMENT PLAN (RMP)
ANNUAL REPORT FORM
FOR
[INSERT PROPERTY ADDRESS]
[INSERT DATE]
SAN FRANCISCO, CALIFORNIA

Property Owner:	Owner Contact Information:
Report Preparer Name and Affiliation:	Report Preparer Contact Information:
Date and Time of Inspection:	Weather and tidal conditions at time of inspection:
Reporting Period From _____ to _____	

INTRODUCTION

This Annual Report Form may be used to prepare the Annual Report to comply with the annual reporting requirement in the RMP. An Annual Report is required to provide the necessary information to verify that field activities and related risk management measures that have been conducted during the reporting period meet the requirements of the RMP. The Annual Report and supporting documentation should include field notes and photographs taken at the time of the inspection to document the condition of the site at the time of the inspection.

This Annual Report Form has been designed to report on the RMP ***Restricted Activities Authorized with Conditions*** (Section 3.1) and the required ***Risk Management Measures*** (Section 5.0). This Annual Report is organized into two Sections. Section 1 provides documentation for ***Restricted Activities Authorized with Conditions*** and ***Risk Management Measures***. Section 2 provides a summary of action items that are planned and must be completed to remain in compliance with the RMP.

Section 1: Restricted Activities Authorized with Conditions

SECTION 1A: ACTIVITY DESCRIPTION

Indicate which Restricted Activities Authorized with Conditions (See RMP Section 3.1.) and Risk Management Measures (See RMP Section 5.0) that have been completed during the reporting period:	☐ Any activity occurring on land that is less than one (1) acre in size (contiguous area) and involves movement of soil to the surface from below the surface of the land, or penetrates the Durable Cover, including, but not limited to excavation, grading, or other movement of soil.	Description of activity (attach photographs and additional sheets as necessary):

	☐ Excavation of soil from one location and placement at any other location on the Property so long as it is placed beneath an approved Durable Cover (e.g., 2 feet of clean fill, asphalt cover, sidewalk, or street)	Description of activity (attach photographs and additional sheets as necessary):
	☐ After dedication and acceptance of public rights-of-way by the City, excavation in the public rights-of-way for purpose of installing, repairing, and maintaining the public rights-of-way, utilities and surface/subsurface facilities that are connected to the utilities and related appurtenances.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Demolition or removal of "hardscape" (e.g., concrete or asphalt roadways, parking lots, building foundations, and sidewalks) for a contiguous area less than one (1) acre in size.	Description of activity (attach photographs and additional sheets as necessary):
	☐ In landscaped areas/parks: Removal or temporary removal of the durable cover (two feet of clean fill). Segregation of the durable cover material from HPS Bayfill/Native Soil underneath. Reinstallation of the segregated durable cover material or installation of a new durable cover (two feet of clean imported fill) over the HPS Bayfill/Native Soil.(Section 5.2)	Description of activity (attach photographs and additional sheets as necessary):
	☐ Placement of soil from Parcel A underneath a durable cover as part of grading, excavation or other soil movement activities.(Section 5.3)	Description of activity (attach dated photographs and additional sheets as necessary):
	☐ Excavation of trenches, potholes, or other movement of soil from the subsurface to the surface in support of the installation of new below grade utilities, foundations, or other foundational structures (e.g., sewer lines, water lines, storm water pump station wet wells, pile caps and/or grade beams, fences, etc.).	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):

	☐ Demolition of existing below grade, at grade, or above grade structures.	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):
	☐ Grading for the purpose of raising and/or lowering site grade, creation of building pads, fine grading activities in support of road installation, and associated excavating, loading, hauling, stockpiling and/or compacting soil.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Pre-drilling for pile installation including drilling pilot holes through fill material prior to the installation of foundation piles.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Any other Vertical Development activities in an area of the Site in which Horizontal Development has been completed	Description of activity (include volume of soil moved in connection with activity and attach photographs and additional sheets as necessary):
SECTION 1B: GENERAL SITE MANAGEMENT ACTIVITIES		
Was an environmental health and safety plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan(s)
Was the Section 1A work conducted in accordance with the Dust Control Plan (DCP) (Appendix F)?	☐ Yes ☐ No	Description of dust control plan implementation such as watering or other dust control methods (attach photographs and additional sheets as necessary)
Were the DCP monitoring locations and monitoring criteria submitted and approved by SFDPH for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of the monitoring locations and criteria and SFDPH approval. Attach copies of monitoring data.
Was an Asbestos Dust Mitigation Plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Was a storm water pollution prevention plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Were appropriate site-specific measures for access control implemented?	☐ Yes ☐ No	Description of access control implementation (attach photographs and additional sheets as necessary)

	☐ Not Applicable	
Were appropriate site-specific measures to protect shoreline improvements and/or monitoring wells implemented?	☐ Yes ☐ No ☐ Not Applicable	Description of shoreline/monitoring well protection measures (attach photographs and additional sheets as necessary)
SECTION 1C: SOIL MANAGEMENT ACTIVITIES		
For all soil from Parcel A, HPS Bayfill, and Native Soil that was stockpiled on site were all soil stockpile management protocols complied with as required in the DCP (Appendix F)?	☐ Yes ☐ No	Description of activity (attach photographs and additional sheets as necessary):
For all soil management activities indicated in Section 1A, was surplus soil disposed off-site?	☐ Yes ☐ No	If yes, please attach copies of waste profile, waste manifest, name, address and contact of disposal facility:
For all soil management activities indicated in Section 1A, was soil transported and placed in an on-site location other than its place of origin?	☐ Yes ☐ No	If yes, describe the quantity of soil, origin of soil, location of placement:
For any activities indicated in Section 1A, was soil imported to the site for use as fill material?	☐ Yes ☐ No	If yes, specify the date of the FFA approved Soil Importation Plan (SIP) that guided this activity. Describe the quantity, source/origin of soil, location of placement, attach soil chemical profile, provide letter certifying that the imported soil meets the soil import criteria specified in the SIP.
Indicate any unexpected and/or unknown conditions encountered during excavation activities:	☐ Evidence of soil contamination (strong odor, visible oily liquid, discolored or stained soil, etc.)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Undocumented structures (e.g. underground storage tanks, buried sumps, oil water separators, refractory brick, pipelines, etc.)	Describe condition and action taken(attach photographs and additional sheets if necessary):
	☐ Abrasive blast material	Describe condition and action taken(attach photographs and additional

		sheets if necessary):
	☐ Radiological devices (e.g. radium dials)	Describe condition and action taken(attach photographs and additional sheets if necessary):
	☐ Free phase liquid floating on the groundwater (e.g., floating oil)	Describe condition and action taken(attach photographs and additional sheets if necessary):
If Unexpected Conditions were encountered, were the procedures outlined in the Unexpected Condition Response Plan implemented?	☐ Yes ☐ No	Attach Closure Report

SECTION 2: COMPLIANCE ACTIONS TO BE COMPLETED			
FOLLOW UP ACTION DESCRIPTION:	**Responsible Party (Owner, Tenant, Contractor, or Developer)**	**Target Completion Date:**	**Actual Completion Date:**
1. Item 1 description: 2. Item 2 description: 3. Item 3 description: 4. Item # description:			

APPENDIX D
Environmental Health and Safety Plan Outline

APPENDIX D
Environmental Health and Safety Plan Outline

All EHSPs will include a description of specific tasks to be performed, key personnel, health and safety responsibilities, site background, job hazard analysis and mitigation, air monitoring procedures, PPE, work zones and site security measures, decontamination measures, general safe work practices, contingency plans and emergency information, medical surveillance and specific training requirements. An example outline of an EHSP is presented below:

SITE EMERGENCY INFORMATION

1.0 INTRODUCTION

- 1.1 Purpose of the Site Health and Safety Plan
- 1.2 Implementation and Modification of the Site Safety Plan
- 1.3 Project-Related Documents

2.0 BACKGROUND AND DESCRIPTION OF WORK

- 2.1 Site Description and Background
- 2.2 Scope of Work

3.0 KEY PERSONNEL ROLES AND RESPONSIBILITIES

- 3.1 Project and Task Managers
- 3.2 Field Supervisor
- 3.3 Site Health and Safety Officer
- 3.4 Competent Person
- 3.5 Subcontractors, Visitors and Other Onsite Personnel

4.0 JOB HAZARD ANALYSIS

ED_006787_00010872-00075

DRAFT

ED_006787_00010872-00076

DRAFT

ED_006787_00010872-00077

APPENDIX E
Dust Control Plan

DRAFT

DUST CONTROL PLAN
PHASE II DEVELOPMENT AREA

HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

Prepared by:

Geosyntec consultants

engineers | scientists | innovators

1111 Broadway, 6th Floor
Oakland, California 94607

Project Number: WR1247

November 2014

Privileged and Confidential – For Discussion Only
Prepared at the Request of Counsel

ED_006787_00010872-00079

Geosyntec consultants

Dust Control Plan
Phase II Development Area
Hunters Point Area
San Francisco, California

Prepared by:

Geosyntec Consultants, Inc.
1111 Broadway, 6th Floor
Oakland, California 9460

DRAFT

Randolph C. Brandt, PG
Principal

Project Number: WR1247

November 2014

ED_006787_00010872-00080

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

APCO	Air Pollution Control Officer
ATCM	Asbestos Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CCR	California Code of Regulations
DTSC	Department of Toxic Substance Control
EHS	Environmental Health Section
FEIR	Final Environmental Impact Report
HEPA	high-efficiency particulate air
HPS	Hunters Point Shipyard
km/hr	kilometers per hour
mph	miles per hour
PM-10	Particulate Matter (on the order of ~10 micrometers or less)
RACM	regulated asbestos-containing material
SFDPH	San Francisco Department of Public Health
SWPPP	Storm Water Pollution Prevention Plan
USEPA	United States Environmental Protection Agency

1. INTRODUCTION

1.1 Document Objective

This RMP dust control plan has been prepared to address development activities that will occur at the Property in San Francisco, California (Figure 1).

This RMP Dust Control Plan has been prepared in accordance with the requirements of the permit process established in Article 31 and compliance with Article 22B of the City and County of San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities, as further described herein. This plan addresses dust control measures that will be implemented during deconstruction and development of horizontal infrastructure at the site.

This plan applies to demolition of existing structures, and dust control associated with soil disturbance or excavation at the Property. In accordance with the requirements of Article 31, this plan was prepared under the supervision of a professional engineer registered in the State of California

1.2 Regulatory Basis

The Final Environmental Impact Report (EIR) 2010 for the Candlestick Point/Hunters Point Shipyard project includes mitigation measures requiring actions that will reduce or eliminate adverse environmental impacts during development at the Property. These mitigation measures were adopted in a Mitigation Monitoring and Reporting Program. The Disposition and Development Agreement incorporates Final EIR mitigation measures that are relevant for Phase II development at the Property and includes the commitments for implementing mitigation measures set forth in Section 18 of the Disposition and Development Agreement and in the EIR.

Dust control is one of the specific mitigation measures applicable to development at the Property, and this plan specifically identifies the steps that will be taken to reduce air emissions during demolition of existing structures, grading, utility work, and construction of site infrastructure. This plan also includes the necessary monitoring and reporting requirements.

DRAFT

ED_006787_00010872-00084

This Dust Control Plan incorporates requirements of the following applicable regulations:

- California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations;
- Bay Area Air Quality Management District (BAAQMD) Regulation 2, Permits;
- BAAQMD Regulation 6, Particulate Matter (PM-10) and Visible Emissions;
- BAAQMD Regulation 11, Rule 2, Asbestos Demolition;
- BAAQMD Regulation 11, Rule 14, Asbestos Containing Serpentine;
- City and County of San Francisco Building Code Section 106A.3.2.6, Construction Dust Control;
- City and County of San Francisco Health Code Article 22B, Construction Dust Control Requirements;
- City and County of San Francisco Health Code Article 31 and Implementing Regulations;
- City and County of San Francisco Order Number 171,378; and
- CP-HPS Phase II FEIR 2010 Mitigation Measure MM HZ-15: Asbestos Dust Mitigation Plans and Dust Control Plans.

Article 22B specifies a goal of minimizing visible dust emissions from the site and Article 22B and Section 106A.3.2.6 of the San Francisco Building Code outline housekeeping measures required to meet this goal. Mitigation Measure HZ-15 similarly defines best management practices (BMPs) including wetting and seeding unpaved, inactive areas, minimizing activity during periods of high wind, sweeping paved areas, covering trucks, etc. Additionally, BAAQMD Regulation 6, which generally prohibits emission of visible dust beyond the property boundary, is also applicable.

DRAFT

ED_006787_00010872-00085

Because the site is in an area with serpentine rock, CCR Title 17, Section 93105 (ATCM) applies. ATCM includes, among other things, the requirement for submission of an Asbestos Dust Mitigation Plan for BAAQMD approval prior to grading activities. The ATCM also includes very specific practices to be implemented during construction. Mitigation Measure HZ-15 also provides BMPs for handling serpentine material, and BAAQMD Regulation 11, Rule 14 prohibits the use or sale of asbestos-containing serpentine materials for road surfacing.

In addition to emission controls for dust generated by general construction activities, specific requirements apply to asbestos-related dust generated by demolition activities. A qualified subcontractor licensed and experienced to manage asbestos- and lead-contaminated building materials will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos.

Contractors selected to perform demolition and grading will be responsible for obtaining applicable permits as described in the project specifications.

DRAFT

ED_006787_00010872-00086

2. BACKGROUND

2.1 Site Description

The Navy's Hunters Point Shipyard was divided into 11 parcels of varying sizes to facilitate environmental cleanup and property transfer. The Property is bounded by private property and city rights-of-way to the north and west and San Francisco Bay to the south and east. The Property includes the portion of the former Navy Hunters Point Shipyard illustrated in Figure 1.

The Property consists primarily of flat lowlands that were constructed by placing borrowed fill material from various sources, including crushed serpentinite bedrock from the adjacent highland and dredged sediments. The serpentinite bedrock and serpentinite bedrock-derived fill material consist of minerals that naturally contain asbestos and relatively high concentrations of arsenic, manganese, nickel, and other metals. The Property is covered with a durable cover, which consists of buildings or hardscape or at least two feet of clean soil placed over Native Soil.

2.2 Site History

The history of the Property is described in the many documents referenced in the RMP.

2.3 Phase II Scope of Work

The redevelopment of the Property will consist of development of horizontal infrastructure to support later development, parks construction, and vertical construction. The Site activities will consist of demolition, site grading, utility system installation, paving, foundation excavation, and vertical construction of commercial/light industrial spaces, housing units and artist studio space.

DRAFT

ED_006787_00010872-00087

2.4 No Visible Dust Goal

The dust control measures set forth in this plan are intended to achieve a goal of no visible dust emissions associated with soil disturbance, movement, or excavation of soil, to the extent required by the applicable regulations identified above.

DRAFT

ED_006787_00010872-00088

3. POTENTIAL SOURCES OF EMISSIONS

Planned site activities have the potential to generate particulate emissions in the form of fugitive dust emissions. Possible sources of particulate emissions include:

- Construction Traffic – Movement of construction equipment around unpaved portions of the construction area is capable of creating fugitive dust emissions in excavated or cleared areas. There is also the potential for vehicular traffic on paved or unpaved roads and parking lots to produce fugitive dust emissions.

- Demolition – Demolition of existing above and below grade structures can produce fugitive dust emissions via excavation efforts, vehicular traffic traveling on un-paved portions of the Site and material handling operations.

- Site Preparation and Foundation Work – Grading, excavation of footings and foundations, and backfilling operations can produce both fugitive dust emissions.

- Trenching Activities – Excavation of trenches for the installation of underground utilities can cause fugitive dust emissions.

- Material Stockpiles – Stockpiles of excavated soil from trenching activities may contribute to windborne dust emissions.

- Cleanup and Grading – Backfilling, grading, and re-vegetating of the excavated areas may produce both fugitive dust emissions.

DRAFT

ED_006787_00010872-00089

4. GENERAL DUST CONTROL METHODS

While all parties understand that soil disturbance and excavation activities, by their nature, will produce dust, Site controls will be used to mitigate visible dust as it is generated in an effort to achieve the no visible dust goal. This section lists methods for control of fugitive dust generated by soil disturbance or excavation including:

- Dust entrained during on-site travel on paved and unpaved surfaces;
- Dust entrained during site grading, excavation, crushing, demolition, and back-filling at the construction site;
- Dust entrained during aggregate and soil stockpiling, loading, and unloading operations; and
- Wind erosion of areas disturbed during construction activities.

4.1 Visible Dust Monitoring During Site Activities

This section establishes the steps that must be taken toward achieving the goal of no visible dust from soil disturbance or excavation in terms of the amount of time permitted to address an initial observation of visible dust plumes. The criteria in this section apply to an active construction site when equipment and personnel are driving on the Site and performing work activities. The "initial observation" starts the clock for the required response measures described below. The "initial observation" is the time any of the following personnel observe visible dust: (a) workers who are disturbing soils or excavating for the permitted activity or (b) any property developer representative, supervisor, contractor, subcontractor or consultant with responsibility for monitoring the permitted activity including the independent third party. An independent third party is a party that is hired by the Owner and is a party that is not working for the contractor conducting the earth disturbing activities.

4.1.1 Visible Dust Crossing the Property Boundary

In the event visible dust from soil disturbance or excavation is observed crossing the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

ED_006787_00010872-00090

1. The specific source of the emissions will be immediately shut down and a more aggressive application of the existing mitigation measures described in this Section 4 will be directed.

2. Once the mitigation measures have been applied, the source of emissions will resume and observations will be conducted to verify that the mitigation measures were successful.

4.1.2 On-Site Visible Dust

In the event visible dust from soil disturbance or excavation is observed on-site, but does not cross the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. A more aggressive application of the existing mitigation measures described in this Section 4 or additional methods of dust suppression will be directed to the specific source of emissions within 60 minutes of the initial observation.

2. If despite these more aggressive and/or additional measures the visible dust emissions continue for 90 minutes from the time of the initial observation, the specific source of emissions will be temporarily shut down until the implemented dust control mitigation is effective or, due to changed conditions, no longer necessary.

4.2 Windblown Visible Dust during Inactive Periods

The standards in this section apply on weekends and holidays or any other times when no equipment and personnel are performing work activities at the construction site. In the event of observations of windblown visible dust plumes from soils originating on the construction site, mitigation measures described in this Section 4 will be directed by the contractor within less than 4 hours of making the observation. Mitigation measures will be applied until the visible dust plumes originating from the construction site are minimized or eliminated. Any observations of visible dust originating from the construction site during inactive periods should be reported to the master developer Hotline at 866-5-Lennar.

DRAFT

ED_006787_00010872-00091

4.3 Construction Traffic

4.3.1 Trackout Prevention

Trackout of loose materials will be controlled using gravel pads along with a tire washing/cleaning station installed at the access point from the unpaved portion of the project Site to a paved road to prevent tracking of soil onto public roadways. The stabilized construction exit (gravel pads) will be installed according to the specifications provided in the Erosion and Sediment Control Plan of the Storm Water Pollution Prevention Plan (SWPPP) for the Site. All vehicle tires will also be inspected and washed as necessary to prevent trackout (at gravel ramps of at least 50 feet long) prior to entering the paved roadways.

4.3.2 Traffic Control

Mitigation measures and BMPs will be followed to control fugitive dust emissions from construction traffic traveling on unpaved portions of the construction site and from construction traffic traveling from unpaved to paved portions of the Project Area as described in the following sub-sections.

4.3.2.1 Travel on Unpaved Surfaces

To the extent practicable, travel on unpaved surfaces within the construction site will be minimized and limited only to necessary construction vehicles. Fugitive dust emissions from construction traffic traveling on unpaved surfaces will be controlled with the following mitigation measures and BMPs:

1. All unpaved roads in the project construction Site will be watered at the start of each work day and prior to the movement of any equipment traveling on the unpaved portions of the active construction Site. All of these same unpaved roads will be watered at the end of the work day. In addition, active unpaved roads will be watered every two hours or frequently enough to maintain moisture conditions adequate to prevent the release of fugitive dust. The frequency of watering can be reduced, as appropriate, during periods of precipitation.

ED_006787_00010872-00092

2. Vehicle speeds will be limited to 10 miles per hour (mph) (16 kilometers per hour [km/h]) within the construction Site. Speed limit signs will be posted at the construction Site entrances. .

3. Implementation of erosion control measures identified in the Construction SWPPP, will control fugitive dust emissions from pubic roadways and parking areas.

4. Gravel access pads will be constructed in the temporary stockpile locations. It will be the responsibility of the construction contractor to construct and maintain functional gravel access pads.

5. Personal vehicles will not be parked within unpaved portions of the Site. Personal vehicles may be parked only on temporary graveled or paved parking areas.

6. To the extent possible, construction work vehicles (e.g., pick-up trucks) will park on paved or graveled areas within the site to avoid driving in unpaved areas.

4.3.2.2 Travel on Paved Surfaces

The following mitigation measures will be followed to control fugitive dust emissions from construction traffic traveling on paved surfaces:

1. The main access and egress routes to the construction site, which will be used by construction employees and delivery trucks, will be paved prior to the initiation of construction.

2. No construction vehicles will be allowed to enter or exit the unpaved portions of the construction site except through a treated exit (gravel pad and vehicle brush/wash station). Gravel pads will be installed at all unpaved area access/egress points to prevent tracking of soil on to public roadways. Wheel brushing stations will be constructed and used if track-out cannot be prevented by the gravel pad only. The wheel brushing stations will be upgraded to wheel washing stations if necessary to prevent track-out.

ED_006787_00010872-00093

3. Construction areas adjacent to and above grade from any paved roadway will be treated with BMPs, as specified in the Construction SWPPP.

4. Any visible track-out on a paved road at any location where vehicles exit the construction site must be removed. If visible trackout is noted, removal must be done using wet sweeping, a high-efficiency particulate air (HEPA) filter-equipped vacuum device or other effective means of removing the trackout. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.

5. All paved roads within or adjacent to the construction site will be swept twice daily with a wet sweeper if the roads were used by any construction vehicles that day or if there is evidence of visible dust (windblown or otherwise).

4.3.2.3 Additional Mitigation Measures for Traffic Control

If any of the above mitigation measures listed in Sections 4.1 through 4.3.2.2 fail to properly control fugitive dust emissions, one or more of the following reasonably available control measures will be applied:

1. Unpaved roads within active portions of the construction site will be watered or treated with dust control solutions to minimize the generation of visible dust due to wind and vehicle traffic. If watering is the chosen method, efforts will be made to maintain a continuously wet surface with water applied at a minimum frequency of every two hours and at the end of the day. If another liquid suppressant is chosen, then the manufacturer's application instructions will be followed so that a continuous dust suppressing layer is present.

2. Paved portions of the construction site will be swept at a frequency of at least every two hours with a wet sweeper and more frequently as necessary to control windblown dust and dust generated by vehicle traffic. Streets adjacent to the Construction Site will be swept as necessary to remove accumulated dust and soil. Water may also be applied to the paved roads if necessary to control fugitive dust.

ED_006787_00010872-00094

3. Physical or chemical stabilization compounds will be applied to control dust on unpaved roads where they were not previously applied.

4. Gravel, re-crushed/recycled asphalt or other material with low fines content (less than 5 percent) will be applied at a thickness of 3 or more inches, if necessary. Serpentine-containing material will not be used for this purpose.

5. Vehicle trips and vehicle speed on unpaved surfaces will be reduced.

4.3.3 Off-Site Transport

All vehicles that are used to transport solid bulk material and that have the potential to cause visible fugitive dust emissions will be covered with a tarp cover, or the materials will be sufficiently wetted and loaded onto the trucks in a manner to provide at least 1 foot of freeboard. Trucks carrying loose soil or sand will be covered before they leave the construction Site, and on-Site vehicle speeds will be limited to 10 mph (16 km/h) or lower in unpaved construction areas.

Vehicles loads will be checked to ensure that they are appropriately covered and to remove any excess material on the shelf or exterior surfaces of the cargo compartment. All off-site haul trucks will access the construction sites via paved access roads and established gravel pads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure from the construction site. Site construction personnel will be stationed at the access point to monitor inflow/outflow to and from the Site. They will be responsible for inspecting all vehicles exiting and performing the cleaning of the tires.

4.4 Potential Dust Generating Activities

These sections describe the potential dust generating activities that may occur within the project boundaries and the various dust control techniques that will be used during such activities.

In addition, the perimeter of the active construction site will have dust curtains, plastic tarps, or windbreaks installed in areas of active construction in an effort to reduce the wind velocity at the border of the construction site.

ED_006787_00010872-00095

4.4.1 Site Preparation and Grading

Fugitive dust emissions from site preparation and grading activities will be controlled using the following methods:

1. During clearing and grubbing, surface soils will be pre-wet to the depth of anticipated cut where equipment will be operated. All work areas will be watered prior to the start of excavation, grading, or movement of any equipment (other than water trucks). The frequency of watering can be reduced or eliminated, as appropriate, during periods of precipitation. Soil moisture content will be sufficiently maintained to minimize fugitive dust creation. For construction fill areas which have an optimum moisture content for compaction, completion of the compaction process will be performed as expeditiously as possible to minimize the release of fugitive dust.

2. If compaction will not take place immediately following clearing and grubbing, the surface soil will be stabilized with dust palliative and water to form a crust on the soil surface.

3. Prior to completion of grading, water will be applied to any disturbed areas as needed to prevent visible emissions.

4. Graded areas will be stabilized with chemical stabilizers within 5 working days of grading completion. Seed and water all unpaved, inactive portions of the lot or lots under construction to maintain a grass cover if they are to remain inactive for long periods during building construction.

5. Halt all clearing, grading, earthmoving, and excavating activities during periods of sustained strong winds (hourly average wind speeds of 25 mph (40 kilometers per hour [km/h] or greater).

6. Limit the area subject to excavation, grading or other construction activity at any one time. Cover on-site storage piles of loose soil or sand.

7. For inactive disturbed surfaces, the following dust control methods will be used:

DRAFT

ED_006787_00010872-00096

a. A dust palliative will be applied in sufficient quantity to form a crust and create a stabilized surface.

b. Backfill material will be wetted, covered, or contained when not actively handled.

c. Inactive stockpiles (stockpiles that have existed for more than 7 days without any soil being added or taken away from the pile) will be covered or contained with a material such as plastic sheeting or more robust dust pallative;

d. Excavated materials will be stockpiled, segregated, and managed to facilitate sampling and analysis for NOA content and disposal characterization.

4.4.2 Crushing

In the event that a concrete crusher will be mobilized to the Site to crush and recycle concrete debris resulting from building and roadway demolition, crushing operations will be visually monitored for the appearance of fugitive dust. If dust is being generated, water will be applied to control the dust. Serpentinite materials containing asbestos will not be processed by the crusher.

4.4.3 Demolition

Demolition activities will be monitored daily for the generation of fugitive dust. Water will be applied at the point(s) of demolition to minimize visible dust. The following methods will be utilized to minimize visible dust:

1. Prior to the commencement of daily demolition and material handling operations the active demolition area will be pre-wet.

2. Fugitive dust emissions from material handling and/or loading operations will be controlled by ensuring that all demolished material is adequately wetted during the handling and/or loading process.

3. Cover, wet or stabilize on-site piles of demolition debris.

DRAFT

ED_006787_00010872-00097

4. Loader buckets will be emptied slowly and drop height from loader bucket minimized.

5. All loading activities will be halted during periods of sustained strong winds, defined as hourly average wind speeds of 25 mph (40 km/h or greater).

6. Prior to completion of demolition, water or other soil stabilizers will be applied to any disturbed areas as needed to prevent visible emissions.

4.4.4 Excavation Activities

Excavation activities will be visually monitored daily for the generation of fugitive dust. Water will be applied at the point of excavation or drilling to minimize visible dust. The following methods will be utilized to minimize visible dust:

1. Soil will be pre-wetted prior to excavation to minimize visible dust. Additional water will be applied during active excavation, material handling, and loading. Active excavation areas will be wet a minimum of every two hours during dry weather or more frequently as needed. The disturbed area will be watered at the end of the day or a dust palliative can be applied according to manufacturer's instructions to stabilize the loose soil and prevent the release of fugitive dust.

2. The height from which excavated soil is dropped onto either stockpiles, haul trucks, or dewatering pads will be minimized and water sprays will be used to prevent dust generation when soils are dropped onto stockpiles or loaded into trucks.

3. As an alternative to watering, dust palliatives may be applied in sufficient quantities to inactive disturbed areas so as to form a crust and prevent the release of fugitive dust.

4.4.5 Loading

Loading activities will be visually monitored daily for the generation of fugitive dust. The following methods will be utilized to minimize visible dust:

ED_006787_00010872-00098

1. Fugitive dust emissions from loading operations will be controlled by ensuring that all excavated material is adequately wetted during the loading process. Soil will be pre-wetted prior to loading to minimize visible dust.

2. Loader buckets will be emptied slowly, drop height from loader bucket minimized, and water sprays will be used to prevent dust generation when soils are dropped onto stockpiles or loaded into trucks.

3. All loading activities will be halted during periods of sustained strong winds, defined as hourly average wind speeds of 25 mph (40 km/h or greater).

4.4.6 Material Stockpiles

Fugitive dust emissions from soil storage piles will be controlled by using a temporary cover, water, or a chemical dust control agent. Soil stockpiles will be inspected weekly to verify that dust control measures are intact and effective at controlling dust emissions.

4.4.7 Foundation Work

Subsurface excavation associated with foundation work will be visually monitored daily for the generation of fugitive dust. The following methods will be utilized to control and minimize visible dust:

1. Sprinklers, wobblers, water trucks, or water pulls will be used to pre-water during cut and fill activities.

2. Building foundations will be constructed as soon as possible after grading to minimize fugitive dust emissions, unless other dust control measures are used in the interim.

3. Wind erosion control techniques, such as wind breaks, water/chemical dust suppressants, and vegetation, will be used on all construction areas that may be disturbed. Any wind erosion control techniques used will remain in place until the soil is stabilized or permanently covered with vegetation.

DRAFT

ED_006787_00010872-00099

4. For back-filling during earthmoving operations, backfill material will be watered as needed to maintain moisture. If required, backfill soil will be mixed with water prior to moving. Loader buckets will be emptied slowly and drop height from loader bucket minimized. Once backfill material is in place, water will be applied immediately to form a crust, if necessary. A water truck or large hose will be dedicated to back-filling equipment and operations.

5. While clearing forms, single stage pours will be used where allowed. Use of high-pressure air to blow soil and debris from the form will be avoided; instead, water spray, sweeping, and/or an industrial shop vacuum will be used to clear the form.

4.5 Post-Construction Stabilization of Disturbed Areas

At the completion of the Site development construction activities, a durable cover will be installed over all areas as required by the RMP. Any areas of exposed soil that has the potential to generate dust (e.g., vegetated areas where the vegetation has not yet become established) must be managed in accordance with this plan. Once the final cover is in place and there is no remaining exposed soil, dust control activities can be discontinued.

4.6 Additional Requirements for Serpentine Material

SFDPH Article 31 includes specifications on mitigation measures to address post-excavation stabilization for exposed serpentine material. In a memo to SF Planning Department (SFDPH, June 2011) about this mitigation measure, SFDPH Environmental Health Section (EHS) requires that the exposed serpentine material be covered with one of the following cover types:

1. One foot of clean, non-asbestos-containing fill soil;

2. Hardscape; or

3. Vegetative cover that holds soil in place.

The June 2011 memo also clarifies that specific "institutional controls" must be implemented "to prevent future exposure to naturally occurring asbestos from

DRAFT

ED_006787_00010872-00100

excavation activities." The purpose of the institutional control requirement is to assure that the post-excavation stabilization measure(s) will remain in place as long as the serpentine material is present. SFDPH EHS concludes in their June 2011 memo that the institutional control requirement is satisfied by the ongoing obligation to comply with the Building Code's Construction Dust Control and the Health Code's Article 31 requirements.

In addition, the 2010 Amendments to San Francisco Health Code Article 31 and the corresponding Implementing Regulations contain requirements for submittal of a Serpentinite Cover Plan and the requirement to describe the implementation of this Plan in the required Article 31 Closure Report submittal.

In addition, excavated materials, which will be transported off site, will be analyzed for asbestos content. Materials with greater than 1 percent by-weight asbestos will be handled and disposed of off-site in accordance with all requirements for proper disposal of asbestos.

BAAQMD Regulation 11, Rule 14 also defines procedures and notifications required if serpentine material is sold for use as a surfacing agent. No serpentine will be used for surfacing material or sold from the Site.

If serpentine waste is scheduled for offhaul and disposal, the following waste management methods, at a minimum, will be used when handling serpentine waste designated as a hazardous pollutant:

1. Keep asbestos-containing waste material adequately wetted at all times during handling and loading.

2. Adhere to requirements of BAAQMD Regulation11, Rule 2, Section 608 for marking of vehicles used to transport asbestos-containing waste.

3. Maintain waste shipment records as specified in BAAQMD Regulation 11, Rule 2, Section 502.

4. Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.

ED_006787_00010872-00101

5. Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter as hazardous waste.

6. Provide a written report to the Air Pollution Control Officer (APCO) if the waste shipment is not received within 45 days of initial acceptance by the transporter

DRAFT

ED_006787_00010872-00102

5. MONITORING AND RECORDS

5.1 General

Control of visible dust will be the primary responsibility of the contractor working at the Site. As an additional layer of protection, monitoring to ensure compliance with the provisions of this plan will be performed by an independent third party. This independent third party will provide quality assurance monitoring and will have the authority to direct the contractor to implement the measures outlined below if visible dust is observed. During any monitoring or observation the contractor, the master developer and/or the independent third party will use the timelines and processes outlined in Section 4 to guide response actions, recordkeeping and descriptions of mitigation measures employed at the Project Area. This section describes the observation, monitoring, recordkeeping and reporting requirements.

5.2 Dust Monitoring Procedures

This section describes monitoring procedures using particulate monitoring instruments and visual observation by the contractor and an independent third party.

Monitoring includes the following activities:

- Daily visual monitoring during earthmoving activities (contractor);
- Perimeter air monitoring using air monitoring instrumentation (third party);
- Quality assurance monitoring (third party)

5.2.1 Daily Visual Monitoring During Earth Disturbing Activities

Daily visual monitoring during all earth disturbing activities is the primary responsibility of the contractor. If criteria are met regarding dust generation at the point of earth disturbance the contractor must follow the processes outlined in Section 4.1 to rectify the particular operation causing the problem. The contractor is encouraged to work directly with the independent third party to communicate the mitigation requirements to workers in the field and to address concerns voiced by regulatory agency staff that may visit the construction site from time to time.

DRAFT

ED_006787_00010872-00103

5.2.2 Perimeter Air Monitoring Instruments

Prevailing wind at Hunters Point is from the west or southwest and towards the east or northeast as shown on Figure 2. From time-to-time, there may be two or more separate work areas and decisions about monitoring can be made independently for each area. In addition, if the potential dust generating activities are contained within even smaller work areas within each parcel then decisions about those areas can be made independently.

Monitoring locations will initially be established based on the prevailing wind directions and will be checked regularly and adjusted if necessary to maintain downwind coverage.

Real-time particulate dust monitors will be used to monitor for particulates. The action level and details of the monitoring instruments, locations, and the monitoring frequency will be submitted by the master developer and approved by SFDPH EHS based on the Particulate Monitoring System and Approval Form attached in Appendix A. The details of the system (layout, number of monitors, etc.) can be changed, as needed, through email submittal and approval by email from SFDPH EHS. The use of this form and the ability to change the parameters of the monitoring are intended to allow flexibility within the overall objectives of the particulate monitoring program while still meeting or exceeding all health standards.

No particulate monitoring is required when the construction site is shut down and no work is being conducted and no vehicles are being driven on unpaved surfaces. This is the presumed condition on weekends and holidays.

National Ambient Air Quality Standards (NAAQS) and the California State Ambient Air Quality Standards (CSAAQS) are designed to protect the general public from airborne particulates generated in the urban, suburban and rural environments. The NAAQS and the CSAAQS are not meant to be applied to site specific actions and related air quality but instead are used in an attempt to attain city or region-wide ambient air quality goals for the benefit of the general public. The current standards are:

1. 24 Hour National Ambient Air Quality Standard

ED_006787_00010872-00104

- PM-10: 150 micrograms per cubic meter average per 24 hour day (Not to be exceeded more than once per year on average over 3 years)
- PM-2.5: 35 micrograms per cubic meter average per 24 hour day (98th percentile, averaged over 3 years)

2. 24 Hour State Ambient Air Quality Standard
   - PM-10: 50 micrograms per cubic meter average per 24 hour day

It should be noted that the City and County of San Francisco (CCSF) is a non-attainment area for the NAAQS for PM-2.5. CCSF is also a non-attainment area for the CSAAQS for PM-10. Non-attainment areas are areas of the country where air pollution levels persistently exceed the NAAQS as designated by U.S. EPA.

5.2.3 Independent Third Party

The independent third party will observe the potential dust generating activities and implementation of the DCP mitigation requirements and make notations on the Appendix B forms. The details of the independent third party observation schedule can be changed, as needed, through email submittal and approval by email from SFDPH EHS.

5.3 Recordkeeping and Reporting

5.3.1 Particulate Monitoring Instruments Recordkeeping and Reporting

Dust particulate monitoring instruments will be equipped with data loggers. Particulate monitoring data will be reviewed with the contractor on a regular basis. Particulate monitoring data and locations of monitoring instruments will be transmitted to SFDPH on a regular basis with notations made about any irregularities in monitoring equipment or results above the action level and corresponding action taken to mitigate the potential problems. Timing of the submittal of data to SFDPH and review of data with contractor will be specified on the Appendix A Particulate Monitoring System Approval Form.

Electronic submittal of particulate monitoring data will include a statement by appropriate personnel certifying that the data has been reviewed by qualified personnel

ED_006787_00010872-00105

and noting any levels above approved limits and any actions taken as a result of the results.

5.3.2 Independent Third Party Recordkeeping and Reporting

The Independent Third Party will fill out the Inspection Checklist (Appendix B) on a regular basis based on their inspections. The checklist results will be reviewed with the contractor on a regular basis. The Independent Third Party will submit the checklists to SFDPH on a regular basis. The schedule for inspections, review and submittal of the checklists will be specified and approved by SFDPH through the Appendix A Particulate Monitoring System Approval Form.

The Hunters Point Shipyard Project area, and San Francisco in general, is subject to significant daily variation in wind direction and speed. For example, the wind can be calm in the morning and can then increase significantly in the afternoon. Wind Direction will be determined with a wind sock, nearby weather station data, or other similar wind direction monitoring device. This variation in daily wind direction and speed will be documented on the Appendix B checklist. The Appendix B checklist also contains information concerning site activities, descriptions of specific dust mitigation measures and any recommendations for enhanced mitigation measures if found to be necessary. Shut down periods that occur during normal work hours will be noted on Inspection Checklist or other report.

5.4 Community Complaints

A publicly visible sign with the telephone number to contact regarding dust, noise, or odor complaints will be posted prior to starting construction and maintained during construction. Signs should be in multiple languages commonly spoken in the local community and should include a phone contact. For general complaints, the contractor will respond and take corrective action within 24 hours.

During hours of active construction phone calls will be answered or returned as soon as possible. During non-work hours phone calls may be diverted to a message machine.

ED_006787_00010872-00106

6. REFERENCES

SFDPH, 2011. I*mplementation of Mitigation Monitoring and Reporting Program, Mitigation Measure 8A for the Hunters Point Shipyard Reuse Plan (HPS Phase I Project) Final Environmental Impact Report 2000*, 14 June.

USEPA, 2012. *Revised National Ambient Air Quality Standards*, 14 December.

California Air Resources Board, 2005. *Revised California Ambient Air Quality Standards for Particulate Matter*, 5 April.

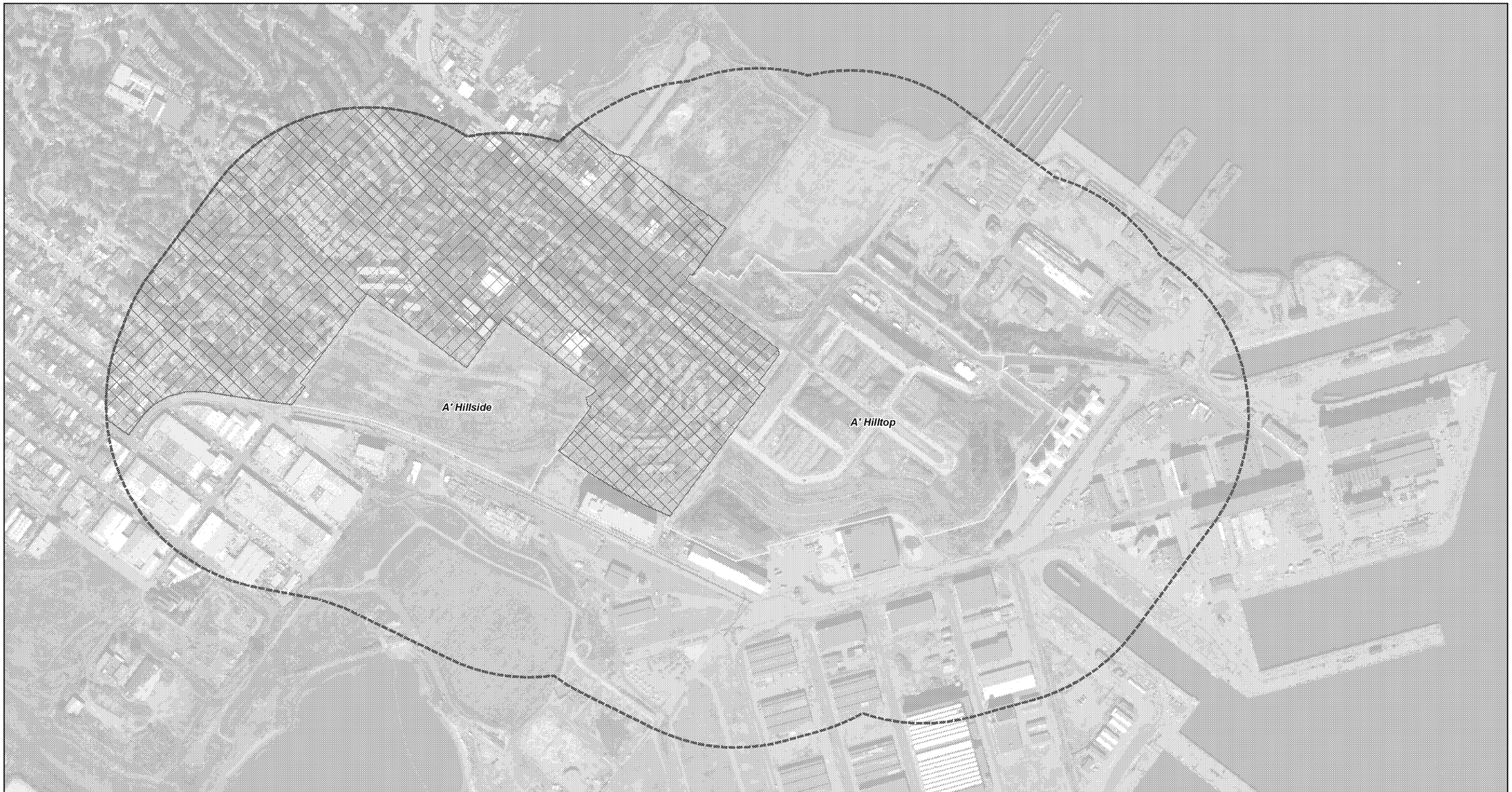
DRAFT

ED_006787_00010872-00107

FIGURES

APPENDIX A
Particulate Monitoring System and Approval Form

APPENDIX B
Independent Third Party Inspection Checklist



Legend

- Location of Potential Sensitive Receptor
- Parcel Boundary
- 1000 ft Parcel Buffer

N

0 500 Feet

Aerial Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

P:\GIS\HuntersPoint\Project\2013Nov\ParcelA'_1000ft.mxd

Parcels A' with 1000 ft Buffer

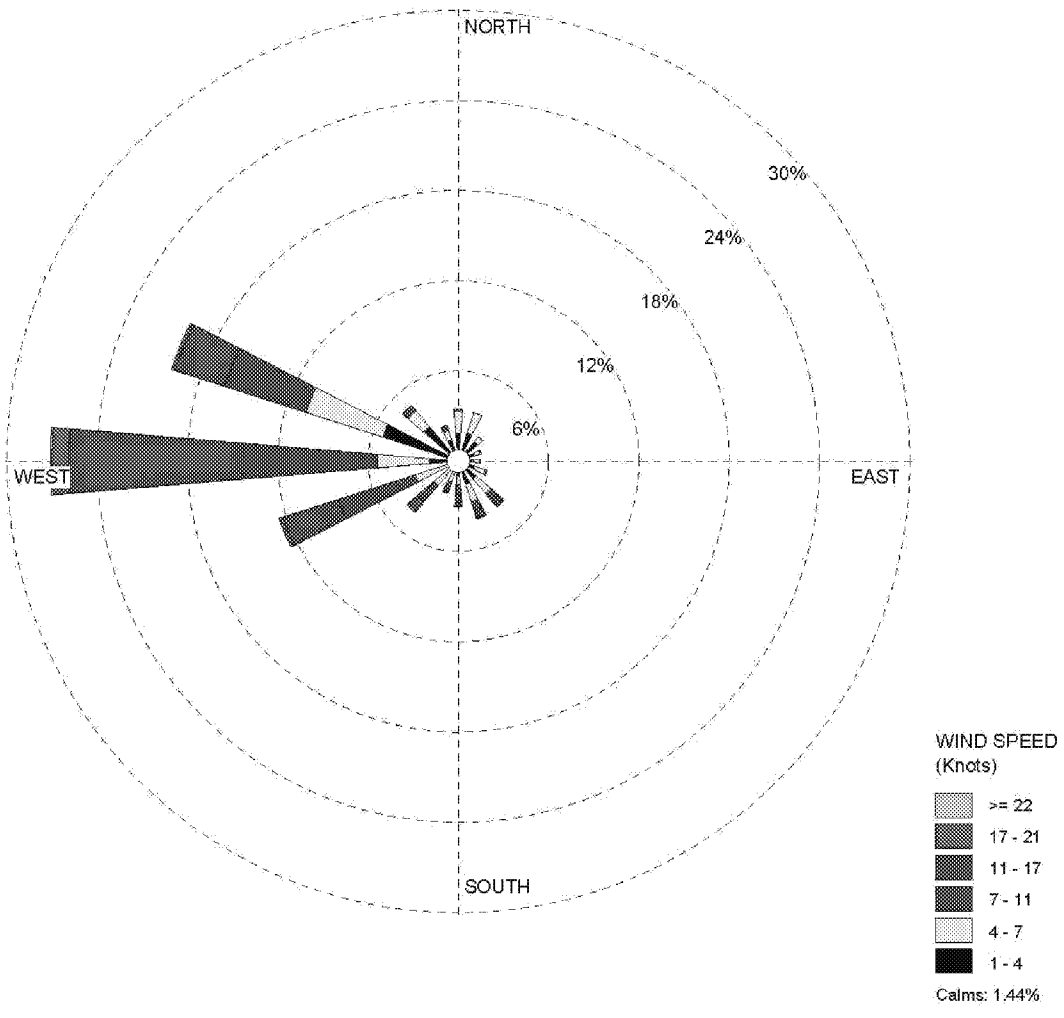
RMP Property
Hunters Point, San Francisco, CA

Geosyntec consultants

Oakland | November 2013

Figure 1

WIND ROSE PLOT:	DISPLAY:
2002-2003 HUNTERS POINT SHIPYARD WIND ROSE	**Wind Speed** **Direction (blowing from)**



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
Hunters Point Shipyard San Francisco, CA UTM: 555.627, 4174.947 Dates: 9/18/02 - 9/17/03 10 meter tower	**2002-2003** **Jan 1 - Dec 31** **00:00 - 23:00**	**Bay Area Air Quality Management District**	
		MODELER: **Dick Duker**	
	CALM WINDS: **1.44%**	TOTAL COUNT: **8760 hrs.**	
	AVG. WIND SPEED: **7.58 Knots**	DATE: **7/19/2005**	PROJECT NO.:

WRPLOT View - Lakes Environmental Software

Wind Rose Diagram

Hunters Point
San Francisco, California

Geosyntec consultants

Oakland | November 2009

Figure **2**

P:\GIS\Hunters Point\2010\Nov\Fig2_Rose.mxd

APPENDIX A
Dust Control Plan
Phase II Development,
Hunters Point Shipyard

Particulate Monitoring System
Approval Form

DATE	
Name of person submitting request	
Company	
Role on Project	
Contact Information	

Proposed Changes from Previous Approval (include only those with changes)	
Number of days after SFDPH approval received that changes are anticipated to be implemented	
Particulate Monitor Model Number	
Near Field Monitor(s)	**PLEASE NOTE:** This near field monitor is operated for contractor feedback and may be stopped at any time as long as notice is sent to SFDPH.
• Number of Monitors	
• Location of Monitors	
• Contractor Feedback Level	
• Averaging Time	
• Frequency of monitoring	
• Frequency of submittal of data to SFDPH (excel workbook with data and graph with Action Level depicted)	
• Frequency of data review with contractor	
Perimeter Monitors	
• Number of Monitors	
• Location of Monitors	
• Perimeter Action Level	
• Averaging Time	
• Frequency of monitoring	
• Frequency of submittal of data to SFDPH (excel workbook with data and graph with Action Level depicted)	
• Frequency of data review with contractor	

ED_006787_00010872-00113

Independent Third Party Inspection Checklist	
• Frequency of Inspections	
• Frequency of submittal of checklists to SFDPH	
• Frequency of checklist review with contractor	

Previously Approved and Unchanged Parameters	
Particulate Monitor Model Number	
Near Field Monitor(s)	**PLEASE NOTE:** This near field monitor is operated for contractor feedback and may be stopped at any time as long as notice is sent to SFDPH.
• Number of Monitors	
• Location of Monitors	
• Contractor Feedback Action Level	
• Averaging Time	
• Frequency of monitoring	
• Frequency of submittal of data to SFDPH (excel workbook with data and graph with Action Level depicted)	
• Frequency of data review with contractor	
Perimeter Monitors	
• Number of Monitors	
• Location of Monitors	
• Perimeter Action Level	
• Averaging Time	
• Frequency of monitoring	
• Frequency of submittal of data to SFDPH (excel workbook with data and graph with Action Level depicted)	
• Frequency of data review with contractor	
Independent Third Party Inspection Checklist	
• Frequency of Inspections	
• Frequency of submittal of checklists to SFDPH	
• Frequency of checklist review with contractor	

Please note: emails or other forms containing similar information may be used in place of this form.

ED_006787_00010872-00114

APPENDIX B
PHASE II DEVELOPMENT
Dust Control Plan
Independent Third Party
Inspection Checklist

Inspectors Name: _____	Date: _____
Company: _____	Time: _____
Weather: _____	Current wind speed: _____
Current wind direction: _____	BAAQMD declared Spare the Air or Spare the Air Tonight (check one) ☐Yes ☐No
Check by: _____	Project Number: _____

This checklist is intended to assist the independent third party inspector when checking for compliance with the Dust Control Plan (DCP) for the Phase II Development located within the former Hunters Point Naval Shipyard. This DCP was submitted by Geosyntec Consultants, Inc., as required for development activities within the Phase II Project Area. The DCP was prepared in accordance with the requirements of the permit process established by the City and Country of San Francisco Health Code Article 31 and certain Bay Area Air Quality Management District (BAAQMD) regulations.

1. VISIBLE DUST

a. Are earth disturbing activities occurring right now? ☐Yes ☐No

If no – is there a shut down and why? (if known)

Comments: _____

b. Is dust emission visible beyond the property boundary? [Section 5.2.1] ☐Yes ☐No ☐NA

If Yes, describe immediate action taken to shut down the source of emissions; describe location, time/duration, wind conditions, and origin of dust; describe actions taken to suppress the dust; and verify no further emissions across the property boundary following restart. See Section 4.1 for response procedure.

Comments: _____

c. Are visible dust emissions observed within the property boundary? [Section 5.2.2] ☐Yes ☐No ☐NA

If Yes, describe how many minutes dust was observed and how it was mitigated. Verify that visible dust was mitigated within the required Section 4.1.1 & 4.1.2 time periods.

ED_006787_00010872-00115

d. Describe current mitigating measures at the Construction Site to suppress dust emissions at each active location. Provide any changes to existing corrective actions or engineered controls. Include dates and effectiveness of corrective action(s) when describing areas where actions have been implemented. Propose potential solutions to suppress dust emissions.

Comments: _____

e. Is particulate monitoring equipment being used? [Section 5.2.2 and Appendix A] ☐Yes ☐No ☐NA

If Yes, is data being reported and a figure attached showing the location of the monitoring equipment.
If No, please write the date of SFDPH approval to discontinue the use of particulate monitoring equipment. DATE = _____

Comments: _____

f. During strong winds (hourly average >25 mph), are all earth moving activities including but not limited to clearing, grading, earthmoving, and excavating activities halted? ☐Yes ☐No ☐NA

Comments: _____

g. Is there a publicly visible sign with telephone number to contact regarding dust, noise, or complaints posted? [Section 5.4] ☐Yes ☐No ☐NA

Comments: _____

h. Have any complaints been received from the public? [Section 5.4] ☐Yes ☐No ☐NA

If yes – list follow-up action if known

Comments: _____

2. CONSTRUCTION TRAFFIC [SECTION 4.3]

a. Is tracked-out soil visible on paved roads? [Section 4.3.1] ☐Yes ☐No ☐NA

If Yes, describe situation (i.e. location, origin of soil, mitigating measures implemented, etc.). Are vehicle tires being washed as necessary? Are gravel ramps being used? Is visible track-out material on paved public roads being removed with wet sweeping or other effective means?

Comments: _____

b. Are unpaved roads in the project Construction Site being watered during construction activity frequently enough to maintain adequate wetness*? [Section 4.3.2.1] ☐Yes ☐No ☐NA

If No, describe situation (i.e. infraction location, origin of material, mitigating measures implemented, etc.).

Comments: _____

ED_006787_00010872-00116

c. Are construction vehicle speeds in excess of 10 mph within the Construction Site or 15 mph offsite within 500 feet of the project? [Section 4.3.2.1] ☐Yes ☐No ☐NA

If Yes, describe situation (i.e. location, time of day, duration of exceedance, type of vehicle, etc.).

Comments: _____

d. Are properly constructed gravel access pads in place and being maintained at the Construction Site entrance, access points, material/equipment staging areas and temporary stockpile locations? [Section 4.3.2.1 & 4.3.2.2] ☐Yes ☐No ☐NA

Comments: _____

e. If found to be necessary, are paved roads within the Construction Site being swept with a wet sweeper at least twice daily or frequently enough to remove soil from road? [Section 4.3.2.3] ☐Yes ☐No ☐ NA

Comments: _____

f. If found to be necessary, are first 500 feet of any public roadway exiting from the Construction Site being swept at least twice daily or frequently enough to remove soil from road? [Section 4.3.2.3] ☐Yes ☐No ☐NA

Comments: _____

g. Is visible dust emission observed from trucks exiting the Construction Site? [Section 4.3.3] ☐Yes ☐No ☐NA

If Yes, are the trucks covered or is the material adequately wetted*?

Comments: _____

3. DEMOLITION [SECTION 4.4.3]

a. During demolition, are active areas being wetted prior to start of movement of any equipment? ☐Yes ☐No ☐NA

Comments: _____

b. Are disturbed areas that are inactive being stabilized or adequately wetted? ☐Yes ☐No ☐NA

Comments: _____

c. Are demolished materials being watered as needed to maintain moisture prior to moving and loading? ☐Yes ☐No ☐NA

ED_006787_00010872-00117

Comments: _____

4. SITE PREPARATION AND GRADING [SECTION 4.4.1]

a. During clearing, grubbing, and grading, are surface soils being wetted to a depth of anticipated cut where equipment will be operated? ☐Yes ☐No ☐NA

Comments: _____

b. If disturbed areas are inactive for 7 calendar days, are surface soils being stabilized with dust palliative and water? ☐Yes ☐No ☐NA

Comments: _____

c. During clearing and grading, are active areas being wetted prior to start of movement of any equipment? ☐Yes ☐No ☐NA

Comments: _____

d. During earthwork operations, is backfill material being watered as needed to maintain moisture prior to moving? Are loader buckets being emptied slowly and the drop height from the loader bucket minimized? ☐Yes ☐No ☐NA

Comments: _____

e. Are loader buckets being emptied slowly and the drop height from the loader bucket minimized? ☐Yes ☐No ☐NA

Comments: _____

f. Prior to completion of grading, is water being applied to disturbed areas as needed to prevent visible emissions? ☐Yes ☐No ☐NA

Comments: _____

g. Have open space areas where finished grading is complete been hydroseeded within 7 calendar days to minimize the amount of disturbed soil at surface? ☐Yes ☐No ☐NA

Comments: _____

5. EXCAVATION ACTIVITIES [SECTION 4.4.4]

a. Prior to excavation, are soils being pre-wet and water added during excavation? ☐Yes ☐No ☐NA

Comments: _____

ED_006787_00010872-00118

b. If disturbed areas are inactive for 7 calendar days, are surface soils being stabilized with dust palliative and water? If so, describe methodology. ☐Yes ☐No ☐NA

Comments: _____

c. During trenching operations, is backfill material being watered as needed to maintain moisture prior to moving? ☐Yes ☐No ☐NA

Comments: _____

d. Are loader buckets being emptied slowly and the drop height from the loader bucket minimized? ☐Yes ☐No ☐NA

Comments: _____

6. MATERIAL STOCKPILES [SECTION 4.4.6]

a. Are active storage piles (i.e. demolition materials, excavated materials, backfill material, import material, gravel, sand, road base, and soil) being adequately wetted* and/or covered? [Sections 4.4.1 & 4.4.] ☐ Yes ☐No ☐NA

Comments: _____

b. If a storage pile is inactive for 7 calendar days, are materials being covered with a tarp, hydroseeding, and or soil stabilizers? ☐Yes ☐No ☐NA

Comments: _____

7. ADDITIONAL REQUIREMENTS FOR SERPENTINE MATERIAL [Section 4.6]

a. Is serpentine material being adequately wetted* during handling and loading? ☐Yes ☐No ☐NA

Comments: _____

b. Is post-construction stabilization of finished areas being implemented (e.g., vegetative cover, 3 to 12-inch cap of non-asbestos-containing material, or hard surface paving)? ☐Yes ☐No ☐NA

Comments: _____

c. During offsite transport of asbestos-containing waste, are vehicles adequately marked in accordance with Section 11-2-608? ☐Yes ☐No ☐NA

Comments: _____

d. Are offsite shipment records for asbestos-containing waste being maintained in accordance with Section 11-2-608? ☐Yes ☐No ☐NA

Comments: _____

ED_006787_00010872-00119

8. GENERAL COMMENTS:

_____

***Notes:**

1. Weather information can be found at the following station:
http://gate1.baaqmd.gov/aqmet/MetSiteView.aspx?SID=5801

2. The Airborne Toxic Control Measures (ATCMs) CCR Title 17, Section 93105, defines "adequately wetted" as follows: Citations **in** [parentheses] reference the relevant section in *the Dust Control Plan* prepared by ENGEO Incorporated.

3. If no moisture threshold is specified in a district-approved asbestos dust mitigation plan, a sample of at least one (1) quart in volume shall be taken from the top three (3) inches of a road or bare area or from the surface of a stockpile. The sample shall be poured out from a height of four (4) feet onto a clean hard surface.

4. The material shall be considered to be adequately wetted if there is no observable dust is emitted when material is dropped.

CERTIFICATION:

I certify that I am an independent third party and I have observed, as stated and appropriate, details described in this report.

Printed Name and Date	Signature

ED_006787_00010872-00120

APPENDIX F
Soil Import Plan Outline

APPENDIX F
Soil Import Plan Outline

APPENDIX G
Groundwater Management Plan Outline

APPENDIX G
Groundwater Management Plan Outline

A Groundwater Management Plan (GMP) will be prepared to describe the pumping of groundwater (dewatering) in support of development activities. The outline presented below will be used to guide preparation of the GMP, such that, a consistent format and content is generated thereby facilitating regulatory review and approval. This outline is intended to be utilized for the development of GMPs associated with temporary projects of short duration. While uncommon, there may be projects that propose pumping of groundwater on a permanent basis (e.g., ongoing dewatering of the area around and within below grade parking lots). If this is proposed, a much more detailed plan encompassing permanent dewatering system design, geotechnical considerations, permitting and construction, among other items, would be necessary. The outline presented herein could provide a framework for designing and permitting such a system but the purpose of this outline is geared towards projects that require temporary dewatering to support development construction.

In accordance with the RMP, Section 5.7, a GMP must be submitted to and approved by the FFA Signatories prior to field activities occurring. Parcels within the Hunters Point Shipyard (HPS) have been the subject of extensive investigation and remediation via the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process and the petroleum hydrocarbon corrective action process, thus, there are numerous reports and sources of data that can be used to assist with the preparation of a GMP. At a minimum, the Record of Decision, Remedial Design Package, Remedial Action Work Plans, Remedial Action Completion Reports, Petroleum Corrective Action Reports, and Petroleum Corrective Action No Further Action letters prepared for each Parcel provide a summary of known groundwater conditions including presentation of sampling locations and analytical results. These plans and data collected in support of the Navy's cleanup activities can be found at the information repositories (See Section 3.4 of the RMP). Briefly, and as described in Section 2.0 of the RMP, localized areas of groundwater contamination are present within each Parcel that may affect the post closure development activities.

The outline presented below uses Section 5.7.1 of the RMP to define certain information to be included in a GMP. Also presented below is other required information that describes the scope of work: Project Description, Subsurface Conditions, Hydrogeological Analysis, Description of Groundwater Extraction Means and Methods and Permitting and Reporting Requirements. The GMP should be prepared well in advance of actual construction activities to ensure adequate

time is allowed for review and comment by the FFA Signatories ultimately resulting in approval of the GMP.

1.0 INTRODUCTION

1.1 Project Description – This section will provide information about the project that will pump groundwater. Items to address:

1.1.1 Type of project (building construction, park construction, or infrastructure construction). Include information like depth of planned excavation, description of what will be built in the subsurface (foundation, elevator pit, storm/sanitary sewer pump station, etc.). Also include information whether the project will require temporary or long term/permanent dewatering (e.g., below grade parking garage)

1.1.2 Project Schedule. A project schedule should be presented. This schedule should, at a minimum, include the following line items: presentation of action(s) requiring dewatering, installation of groundwater extraction systems, schedule and duration of anticipated extraction activities, total project duration.

1.2 Local Groundwater Description – This section will provide a description of known groundwater conditions in and around the area proposed for dewatering.

1.2.1 Presentation and discussion of existing groundwater data (locations, levels, flow direction, flow velocity, chemicals of concern (COCs), type of data, date of collection, source of data with references).

1.2.2 Discussion of known groundwater plumes

1.2.2.1 Location relative to proposed project

1.2.2.2 Description of completed or ongoing remediation efforts. Include current regulatory status of plume(s)

1.2.3 Presentation of relevant soil and/or geologic conditions (provide source of data with references) and presentation of geologic cross sections.

2.0 GROUNDWATER MANAGEMENT PLAN

2.1 Description/Presentation of Hydrogeologic Evaluation – This section will present general hydrogeological conditions at the project site and the type of further hydrogeologic evaluation that will need to be performed prior to the proposed dewatering project. Particular emphasis will be placed on answering the fundamental question of whether the proposed dewatering will negatively impact

known areas of affected groundwater. This section will take into consideration all of the parameters listed above. At a minimum, this section should identify the project specific evaluation and should include the following:

2.1.1 Radius of influence of pumping

2.1.2 Description of potential negative effects on known groundwater plumes, if any

- 2.1.2.1 Provide a figure depicting nearby known plumes, locations of nearby existing monitoring/extraction wells.
- 2.1.2.2 Provide a description of the frequency of monitoring performed by others (e.g., the base-wide groundwater monitoring program).
- 2.1.2.3 Present most recent data set from the nearby and existing groundwater monitoring wells to establish baseline water quality.

2.1.3 Proposed mitigation measures to minimize/eliminate negative effects on known groundwater plumes.

- 2.1.3.1 Pumping rate and/or duration to minimize/eliminate negative effects on known groundwater plumes
  If necessary based on the judgment of a qualified professional, the installation of "guard wells" may be appropriate to provide an early warning of adverse impacts from the temporary pumping on the nearby plume.
- 2.1.3.2 If necessary, collect groundwater samples from select wells in the vicinity and as presented in Section 2.1.2.1 and 2.1.3.2, if basewide groundwater monitoring program is not already collecting and analyzing samples with sufficient frequency to ensure existing plumes are not negatively affected by localized and temporary pumping.
- 2.1.3.3 Other engineering measures (e.g., sheet pile walls, tide fluctuation management, injection grouting, etc.)

2.1.4 Suggested Permit and Regulatory Structure

- 2.1.4.1 This Section will propose a permit/regulatory structure to discharge. Should include a conceptual description of, at a minimum, permit discharge requirements and the means and methods to comply with the permit requirements.

ED_006787_00010872-00126

2.2 Description of Groundwater Extraction – This section is based on the project needs and the results of the hydrogeologic evaluation presented in Section 2.0 of the GMP. This section will present the following information or identify where and when it must be provided as required in the discharge permit:

- 2.2.1 Duration of dewatering efforts. Essential to make the distinction between a temporary effort vs. long term or permanent dewatering that will function for the life of the proposed project
- 2.2.2 Means/methods of pumping and discharge
  - 2.2.2.1 Description of dewatering system (pump type, piping type and layout, treatment system components, discharge point, etc.)
  - 2.2.2.2 Description of specific control measures to prevent silt generation or the discharge of silt-laden water (both at point of pumping and any "end of pipe" measures)
  - 2.2.2.3 Description of chemical treatment to address pre-existing condition of extracted groundwater (e.g., activated charcoal, physical filtration, pH adjustment, etc.)
  - 2.2.2.4 Description of any additional measures to slow or minimize groundwater infiltration into below grade excavations for the duration of the project (e.g., sheet pile walls, injection grouting, management of tidal water if close to the bay margin, not-to-exceed pumping rates, etc.)
  - 2.2.2.5 Description of conveyance system, temporary storage (if any)
  - 2.2.2.6 Description of discharge point. At a minimum, describe physical location and ownership of discharge point (e.g., San Francisco Public Utilities Commission (SFPUC) combined system). Describe several alternative discharge points at each parcel, if possible.
  - 2.2.2.7 Where appropriate, provide schematic or engineering drawings of dewatering and treatment systems, locations of any wells, discharge point(s), sampling point(s)
  - 2.2.2.8 If discharging to the San Francisco Bay, provide communication and documentation on approval process with RWQCB/SFDPH, etc. The discharge of extracted groundwater may require coverage under the Groundwater VOC and Fuel General Permit (Order No. R2-2012-0012, NPDES No. CAG912002).

ED_006787_00010872-00127

3.0 PERMITTING AND REPORTING REQUIREMENTS

3.1 Description of Permit Requirements – This section will present the permit itself (attached to the GMP). Also to be presented are a description of specific compliance requirements to be met.

- 3.1.1 Performance/discharge criteria (e.g., turbidity, pH, chemical-specific parameters, conductivity, biological oxygen demand [BOD], dissolved oxygen [DO], etc.).
- 3.1.2 Sampling criteria. Should include field monitoring, field observation, collection and laboratory analysis of discharge water samples

3.2 Description of Reporting Requirements – This section will present the following:

- 3.2.1 Permit-specific reporting obligations could include the following:
  - 3.2.1.1 Field notes/observations
  - 3.2.1.2 Laboratory results
  - 3.2.1.3 Quarterly/annual reporting
  - 3.2.1.4 Project close out process
- 3.2.2 Regulatory Agency Involvement and Reporting
  - 3.2.2.1 SFDPH requirements via Article 31
  - 3.2.2.2 Other City and County of San Francisco (City) entities, when appropriate: SFPUC, San Francisco Department of Public Works (SFDPW-Bureau of Construction Management [BCM]), Department of Building Inspection (DBI)
  - 3.2.2.3 RWQCB (TPH and Hazardous Substances comingled with TPH), DTSC and possibly USEPA (for comingled Hazardous Substances and TPH).
  - 3.2.2.4 Navy
  - 3.2.2.5 Refer to ongoing RMP and Operation and Maintenance Plan (O&M Plan) reporting obligations of owners

4.0 HEALTH AND SAFETY

4.1 Site Specific Health and Safety Measures

- 4.1.1 This section will reiterate groundwater-specific health and safety measures designed to protect workers conducting dewatering and subsurface work. It is assumed that a project-specific Environmental Health and Safety Plan (EHSP) will be prepared by each contractor that will address worker health and safety issues for the duration of the project (See Section 5.1 of the RMP). It is this ESHP from which the groundwater-specific health and safety measures are taken.

ED_006787_00010872-00128

5.0 DISCOVERY OF UNKNOWNS

5.1 Refer reader to Unexpected Condition Response Plan (RMP, Appendix H)

6.0 REFERENCES

This section will present typical bibliographic information as well as physical location of all reports used in the preparation of this document.

ATTACHMENTS (As appropriate)

Figure 1	Site Location Map
Figure 2	Site Plan showing project footprint, dewatering location(s), conveyance system, treatment/storage system location, discharge point, sampling location(s)
Table 1	Analytical data used in the Hydrogeologic analysis
Table 2	Sampling and Analysis Program
Attachment 1	Schematic or Engineering Drawings that Depict Entire System

ED_006787_00010872-00130

APPENDIX H
Unexpected Condition Response Plan

APPENDIX H

UNEXPECTED CONDITION RESPONSE PLAN
TABLE OF CONTENTS

FLOWCHARTS

ED_006787_00010872-00132

1. UNEXPECTED CONDITIONS – APPROACH

Geosyntec prepared this Unexpected Condition Response Plan (UCRP) to address the discovery of Unexpected Conditions during development activities within the Property. Although investigation and remediation has already been implemented by the Navy and an approved remedy is in place, Unexpected Conditions could potentially be encountered during the course of development. An Unexpected Condition is a condition observed in the soil, soil vapor, sediment and/or groundwater that indicates the potential for hazardous substances and/or petroleum substances to exist beneath the Property at a location that has not previously been identified, characterized, or remediated by the Navy. By way of example, Unexpected Conditions may include visibly discolored soil and/or contaminated groundwater in an area not previously identified by the Navy, soil and/or groundwater exhibiting a strong chemical odor in an area not previously identified by the Navy, unexpected subsurface structures (e.g., pits, sumps, underground storage tanks, etc.), radioactive materials, material potentially presenting an explosive hazard (MPPEH), and/or other visual or olfactory evidence of a historical release at a location not previously identified by the Navy.

This UCRP establishes protocols for the assessment and response to the discovery of an Unexpected Condition and for a path forward such that development activities can continue safely and timely within the context of the approved remedy. The UCRP protocols provide for initial oversight by and consultation with the San Francisco Department of Public Health (SFDPH); for notification to and consultation with the Federal Facility Agreement (FFA) Signatories; and for possible longer-term oversight by the FFA Signatories depending on the circumstances and nature of the response. As a component of the Site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify and respond to potential Unexpected Conditions. Details of health and safety training, including additional onsite protocols for identification and handling of potentially hazardous materials, will be provided in the Site-specific Environmental Health and Safety Plan (EHSP), an outline for which is provided in Appendix D to this RMP.

This UCRP is intended to fulfill the requirements of Article 31 of the San Francisco Health Code (http://www.amlegal.com/nxt/gateway.dll/California/health/article31hunterspointshipyard?f=templates$fn=default.htm$3.0$vid=amlegal:sanfrancisco_ca) for preparation of an unknown contaminant contingency plan. The Owner may address Unexpected Conditions by following the steps outlined in this UCRP; however, at any time after the discovery of an Unexpected Condition, the Owner may elect to request the Navy to take responsibility for the condition. In addition, under specified

ED_006787_00010872-00133

circumstances the UCRP requires that the Owner consult with the FFA Signatories to determine whether a new CERCLA action is required, which would be the responsibility of the Navy. If the Navy takes responsibility for the condition, the Owner must suspend all work at the location of the condition pending completion of Navy response to allow the Navy adequate access to implement the response.

DRAFT

ED_006787_00010872-00134

2. RESPONSE PLAN

This Section identifies how Unexpected Conditions shall be addressed, the general approach of which is presented in the attached flowchart H-1. The primary objectives outlined in Flowchart H-1 are to: i) provide initial notification of and response to the discovered condition to the appropriate agencies; ii) assess if the Unexpected Condition is a Category 1 Condition (described below); iii) make a preliminary determination as to whether the condition qualifies as a potential Category 2 Condition; iv) prescribe the collection and analysis of initial samples; and v) determine whether any response action is required. A Category 2 Condition for which a response action is required will then follow the course of action specified in Flowcharts H-2 (pertaining to petroleum substances only) and H-3 (pertaining to hazardous substances or hazardous substances comingled with petroleum substances). During the initial assessment process, the Owner will proceed under the oversight of the SFDPH and will provide the FFA Signatories with notice of results and proposed actions, including sampling results, documentation of proposed work, and recommendations for specific responses. After the initial response, SFDPH or the FFA Signatories may request longer-term oversight by the FFA Signatories. In the instance where a new CERCLA action or a Site-specific Corrective Action Plan (CAP) might be required, the Owner will consult with the FFA Signatories, such as in the case of a Hazardous Substance/petroleum substance co-mingled condition, or the RWQCB in the case of a petroleum substance only condition, to determine whether these actions might be needed.

2.1 Initial Assessment Procedures

Upon the discovery of a potential Unexpected Condition, the Owner shall suspend work and immediately notify the Site Safety and Health Officer (SSHO). The SSHO will assist the Owner with the initial assessment procedures described herein to ensure that work proceeds in a safe manner.

After notifying the SSHO, the Owner must first conduct an initial assessment to identify the nature of the condition. The nature of the condition will be described as one of two categories of conditions, as follows:

- **Category 1 Condition**: A Category 1 Condition could be an immediate hazard to construction workers and warrants coordination between the developer, the SFDPH, and the FFA Signatories. Category 1 Conditions include radioactive materials and MPPEH. By way of example, radioactive materials include buried luminescent dials, radioactive aircraft deck markers, luminescent gauges and signs, and sandblast grit. MPPEH materials that might be found include empty

ED_006787_00010872-00135

shell casings, discarded spent military munitions, and munitions debris containing chemical residue.

- **Category 2 Condition**: A Category 2 Condition is less likely to represent an immediate hazard to construction workers and warrants coordination with the SFDPH in consultation with the FFA Signatories, as appropriate. By way of example, Category 2 Conditions include hazardous substances and/or petroleum substances in soil, soil vapor, and/or groundwater. A Category 2 Condition may involve hazardous substances only, petroleum substances only, or a comingled condition of both. The preliminary determination will be made based on initial observations, field screening, and/or laboratory analyses, as described in Section 2.2 of this Appendix. As appropriate, initial assessment of the Unexpected Condition could also include excavation and segregation of soil that contains visual or olfactory evidence of hazardous or petroleum substances to provide an indication of the magnitude and geographic extent of the condition.

If the condition is determined to be a Category 1 Condition, the Owner will stop work, secure the area, and notify the SFDPH and FFA Signatories within 24 hours of the determination that the condition is a Category 1 Condition. In the case of radioactive materials, the developer will coordinate a response with the SFDPH and may request the Navy to take appropriate action. In the case of MPPEH, the developer will notify the SFDPH or, in the case of suspected unexploded ordnance, notify the San Francisco Police Department Bomb Squad to take appropriate action. In either case, the FFA Signatories and the SFDPH may require that a work plan be submitted for review and approval prior to initiating the action. This process is documented in Flowchart H-1, Boxes 1, 1B, and 1C. Although work will be stopped at the location of the discovered Condition until an approved response action is completed, work may proceed at other locations not affected by the Condition, unless otherwise directed by the Navy, under the guidance of the Risk Management Plan (RMP).

If the Unexpected Condition is determined to be a Category 2 Condition, the Owner will notify the SFDPH and the FFA Signatories of the discovery within 24 hours of the determination that the Condition is a Category 2 Condition. Following the notification, the Owner will proceed with the initial assessment to determine the nature of the Condition. This process is documented in Flowchart H-1, Boxes 1A, 2, 2A, and 2B.

The initial assessment actions will be performed in accordance with applicable federal and state laws and regulations and the Site-specific EHSP and appropriate measures will be undertaken to ensure that assessment activities will be conducted in a safe manner. The SSHO will be responsible for performing activity hazard analyses, evaluating any

ED_006787_00010872-00136

change in site conditions, and modifying the EHSP accordingly. The SSHO has the authority to stop work if an unsafe condition arises.

2.2 Category 2 Condition Assessment Procedures

Following the notification of the initial discovery and upon concurrence from the SFDPH and the FFA Signatories, the Owner will proceed with further assessment of a Category 2 Condition until the condition can be classified as a hazardous substance condition, petroleum substance condition, or a co-mingled condition. The assessment procedures are documented in Flowchart H-1, Boxes 2, 2A, and 2B. Assessment work shall be conducted by a competent and licensed professional.

The assessment may include the use of one or more field screening instruments: organic vapor monitor (OVM), photoionization detector (PID) x-ray fluorescence (XRF), gamma ray spectrometer, etc., physical observation (visual and olfactory characteristics), and sampling and chemical testing of the exposed affected media (soil, soil gas, groundwater, sediment, etc.). The assessment of the Condition may also include excavation and segregation of soil that contains visual or olfactory evidence of contamination to provide an indication of the magnitude and geographic extent of the Condition. In the event that some amount of excavation will occur, the Owner will follow the soil management protocol specified in the RMP (Section 5.3). Field documentation will be generated that describes the location and type of the affected media, describes samples collected (number, location, type), conveys results of any field screening (OVM, PID, XRF, etc.) results, provides volume estimates of excavated/stockpiled material, and describes stockpile control measures.

The assessment will follow the protocol specified in the most current version of the Navy's Quality Assurance Project Plan, as applicable. A minimum of one investigation sample and corresponding quality control (QC) samples (duplicate, travel blank, equipment blank, etc.) will be collected for each media (liquid in object, soil, sediment, soil vapor, or groundwater) that is suspected to be impacted. In addition to primary samples, duplicate samples and other applicable QC samples will be collected and submitted for analysis. The samples will be collected in accordance with industry standard protocols and collection procedures as identified by the competent and licensed professional overseeing the work. As an initial screen, collected samples may be analyzed for the following constituents:

- Volatile organic compounds (VOCs), including fuel oxygenates by EPA Test Method 8260B or approved equivalent;

ED_006787_00010872-00137

- Semi-volatile organic compounds (SVOCs), including polycyclic aromatic hydrocarbons (PAHs) by EPA Test Method 8270C or approved equivalent;
- CAM 17 Metals by EPA Test Method 6010B/7400 or approved equivalent;
- Pesticides by EPA Test Method 608 or EPA Test Method 8081A or approved equivalent;
- Polychlorinated biphenyls (PCBs) by EPA Test Method 608 or EPA Test Method 8082 or approved equivalent;
- TPH-gasoline range organics (TPH-gasoline) by EPA Test Method 8015B or approved equivalent;
- TPH-diesel range organics (TPH-diesel) by EPA Test Method 8015B or approved equivalent;
- TPH-motor oil range organics (TPH-motor oil) by EPA Test Method 8015B or approved equivalent; and
- Radionuclides radium-226 and cesium-137.

Analyses will be selected to correspond with the suspected constituents of potential concern (COPCs) at the location being assessed. Conditions that will be considered in selecting the analysis include previous work conducted by the Navy at the location, known conditions as documented in Navy reports for the location, history of hazardous substance and/or petroleum use at the location as documented by the Navy, field observations, and other anecdotal information. The results of the initial sampling will be compared to the Petroleum Program Strategy Preliminary Screening Criteria (PSC) and/or applicable Record of Decision (ROD) remediation goals. In the event that a constituent is detected that is not listed in the Petroleum Program Strategy PSC and/or applicable ROD remediation goals, the most recent version of the EPA's Regional Screening Levels (RSLs) will be used. Evaluation of the analytical results will allow the Owner to make an initial determination whether the Condition is:

1. A Condition that does not require further response or regulatory oversight; or,
2. A petroleum Condition that requires further evaluation and response; or,
3. A hazardous substance/comingled Condition that requires further evaluation and response.

Based on the evaluation of the results of the chemical testing, the Owner will then inform the SFDPH and the FFA Signatories of its findings, conclusions, and

ED_006787_00010872-00138

recommendations (See Flowchart H-1, Boxes 2B and 3). This determination will be made, in summary, as follows:

No Further Response. No further response or regulatory oversight is required if: i) the Condition is a petroleum substance Condition; ii) petroleum constituents in samples are below Tier 1 Petroleum PSC; and iii) and the Condition is not a subsurface object or structure (Flowchart H-1, Boxes 4, 4A, 4B, and 4C). In addition, no further response or regulatory oversight is required if: i) the Condition is a hazardous substance/petroleum substance co-mingled Condition; ii) the hazardous substances in samples are below ROD remediation goals or RSL if not listed in the ROD; iii) any petroleum constituents are beneath Tier 1 Petroleum PSC; and iv) the Condition is not a subsurface object or structure. In such cases, the Owner shall notify SFDPH and the FFA Signatories of its findings (including analytical results), prepare and submit a Closure Report to the SFDPH and FFA Signatories, and upon approval of the Closure Report by the SFDPH and FFA Signatories proceed with redevelopment work under the guidance of the RMP (Flowchart H-1, Boxes 5, 5A, 5B, and 5C).

Additional Petroleum Evaluation and Response. Additional evaluation and response is required if: i) the Condition is a petroleum substance Condition; and ii) petroleum substances in samples are above Tier 1 Petroleum PSC; or iii) the Condition is a subsurface object or structure (Flowchart H-1, Boxes 4, 4D, and 4E). If in the course of evaluating the Unexpected Condition, the soil exhibits a total TPH concentration equal or greater than the Navy's petroleum Source Criterion for soil (3,500 mg/kg total-total petroleum hydrocarbons), the soil will be managed as if it contains separate-phase petroleum product. In such cases, the Owner shall notify the SFDPH and the FFA Signatories of its findings (including analytical results) and proceed with the evaluation and response in conjunction with the development activities as described in Section 3 below and as identified in Flowchart H-2.

Additional Hazardous Substance Evaluation and Response. Additional evaluation and response is required if: i) the Condition is a hazardous substance/petroleum substance co-mingled Condition; ii) the concentration of the hazardous substances in samples are above applicable ROD remediation goals or RSL if not listed in the ROD; or iii) the Condition is a subsurface object or structure. In such cases, the Owner shall notify the SFDPH and the FFA Signatories of its findings (including analytical results) and proceed with the evaluation and response in conjunction with the development activities as described in Section 4 below and as specified in Flowchart H-1, Box 5, 5D, 5E, and Flowchart H-3.

ED_006787_00010872-00139

3. PETROLEUM SUBSTANCE CONDITION

If the Owner, the SFDPH, and FFA Signatories have determined that the Unexpected Condition is a petroleum substance Condition, evaluation and response work will proceed following the process outlined in Flowchart H-2. In general, all work will comply with the Preliminary Screening Criteria and Petroleum Strategy (Shaw, 2007). Work will occur under the oversight of the RWQCB with notification to and consultation with the SFDPH as appropriate. Completion of petroleum substance evaluation and response under this UCRP will be documented in a Site Closure Report submitted for the RWQCB review and approval or, under certain circumstances identified below, preparation of a condition-specific CAP may be necessary, with RWQCB review and approval, in consultation with the SFDPH.

If the Unexpected Condition encountered is a physical object(s) determined to contain or have contained petroleum substances only, including such objects as a UST, pipelines, sump, drum or other containers, the object(s) will be removed in consultation with the RWQCB (Flowchart H-2, Box 2B), and in accordance with applicable SFDPH permitting procedures. Upon removal of the object(s), the surrounding material will be assessed for visual evidence, olfactory evidence, and with field instruments for evidence of petroleum substances. Affected material will be designated as such on the basis that it appears discolored, as compared to surrounding Bay Fill/native soil, and it exhibits a chemical odor, and field monitoring instruments register a concentration that exceeds levels typical of Bay Fill/Native soil. Removal of the affected material will proceed as presented in Section H3.1 and Flowchart H-2, Box 2A.

If there is no evidence of additional contamination in the excavation, other than the removed physical object, final confirmation soil samples from the excavation will be collected. Final confirmation soil samples will be collected for analysis in accordance with the procedures specified in the Petroleum Corrective Action Plan (PCAP). The collected soil samples will be analyzed for the following constituents, as applicable, and based on initial sample results of the contents of the removed object:

- TPH-gasoline;
- TPH-diesel;
- TPH-motor oil;
- BTEX, MTBE; and,
- PAHs.

ED_006787_00010872-00140

Soil sample results will be screened against the Tier 1 Petroleum PSC for shallow soils (<10 feet below ground surface [bgs], residential reuse, non-drinking water resources) (Shaw, 2007). If soil samples contain COPCs above the Tier 1 Petroleum PSC, removal of the affected material or further evaluation will proceed as presented in Section 3.1.

If soil samples do not contain concentrations of petroleum substances above the Tier 1 Petroleum PSC and no groundwater was encountered, a Site Closeout Report will be prepared documenting a no further action recommendation for RWQCB approval. Upon submittal of the Closeout Report, development activities will continue under the guidance of the RMP or approved work plan.

Groundwater encountered during the removal of the object(s) will be addressed as presented in Section 3.2.

3.1 Excavation of Petroleum Affected Material

If affected material is encountered during the removal of an object(s) or as a stand-alone material, excavation and segregation of the affected material will proceed. The excavated affected material will be segregated, stockpiled, and secured pending characterization sampling for reuse, further treatment, or offsite disposal. The excavation will incrementally extend laterally and vertically to the maximum extent feasible to remove affected material. Vertical excavation will extend until the affected material is removed to an initial depth of 10 feet bgs or groundwater is encountered, whichever is shallower. If affected material extends past the initial depth of removal (10 feet bgs or first groundwater, whichever is shallower), the RWQCB will be notified and consulted to determine if the residual contamination represents a human and/or ecological hazard based on existing subsurface conditions, nature of the contamination, and proposed development plan for the area. If, during the excavation of the affected material, the volume of the excavated material exceeds 100 cubic yards, the RWQCB will be notified and excavation of additional material will continue.

Upon removal of the affected material, excavation confirmation samples will be collected for analysis in accordance with the procedures specified in the PCAP (ITSI, 2009). Excavation confirmation soil samples will be analyzed for the presence of the following constituents, as applicable, based on initial characterization results of the contents of the removed object and/or encountered stand-alone affected material:

- TPH-gasoline;
- TPH-diesel;
- TPH-motor oil;

ED_006787_00010872-00141

- BTEX/ MTBE; and,
- PAHs.

The results of the excavation confirmation soil samples will be compared to the Tier 1 Petroleum PSC for shallow soil (Shaw, 2007).

If concentrations of petroleum substances remaining in the excavation are below the Tier 1 Petroleum Program Strategy screening levels, the RWQCB will be notified, excavation will stop, and characterization samples of the excavated segregated material will be collected as described in Section 3.3 (Flowchart H-2, Boxes 10A, 11, and 10B).

If, however, the concentrations of remaining chemicals of potential concern (COPCs) are above the Tier 1 Petroleum Program Strategy screening levels, an evaluation of the site conditions using the framework in the Low-Threat UST Case Closure Policy (SWRCB Resolution 2012-0016) will be made in consultation with the RWQCB. If the Low-Threat criteria evaluation indicates that the site is suitable for no further action, no additional soil removal will occur, and characterization samples will be collected from the excavated segregated material as per Section 3.3 (Flowchart H-2, Boxes 10A, 10B, and 11). If the Low-Threat Criteria evaluation indicates that the site requires further action, Owner shall consult with the RWQCB to determine whether excavation and segregation of the affected material will continue, or whether preparation of a Site-specific CAP is required (Flowchart H-2, Box 10A, 11, 12, and 13).

3.2 Encountered Groundwater

If excavation of affected soil extends to groundwater and groundwater has a measureable TPH free-product thickness of greater than 0.01 feet, the RWQCB and SFDPH will be notified and both agencies consulted to determine if preparation of a Site-specific CAP is required (Flowchart H-2, Boxes 3A, 4A, 5A, and 7A). If groundwater without measurable free product is encountered, a groundwater sample will be collected and analyzed for the presence of the following constituents, as applicable, and based on initial characterization results of the contents of the removed object and/or encountered stand-alone affected material:

- TPH-gasoline;
- TPH-diesel,
- TPH- motor oil;
- BTEX/MTBE; and,

ED_006787_00010872-00142

- PAHs.

Groundwater samples will be collected and analyzed according to the procedures outlined in the PCAP. Laboratory results of the collected groundwater sample will be compared to the Tier 1 Petroleum PSC and based on the location of the discovered Unexpected Condition (e.g., distance from the Bay Margin). If total TPH, BTEX, PAH, or MTBE concentrations in the collected groundwater sample exceed the Tier 1 Petroleum PSC for the location where the TPH Unexpected Condition was encountered, the SFDPH will be notified and consultation with the RWQCB will take place to determine if preparation of a Site-specific CAP is necessary (Flowchart H-2, Boxes 7B, 5A, and 7A). If encountered groundwater does not contain TPH COPCs above the Tier 1 Petroleum PSC, work will continue under the guidance of the RMP and the RWQCB will be notified (Flowchart H-2, Boxes 6A, 7B, and 8).

3.3 Segregated Material Characterization

Segregated material (e.g., soil) derived during removal of the encountered object(s) and/or as part of affected material excavation activities will be sampled for handling and waste disposal purposes. Composite sampling of the segregated material will not be allowed and the number of discrete, segregated material samples collected for waste profiling will be as follows (DTSC, 2001):

Volume of Segregated Material	Samples per Volume
Up to 1,000 cubic yards	1 discrete sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 discrete samples for first 1,000 cubic yards plus 1 discrete sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 discrete samples for first 5,000 cubic yards plus 1 discrete sample per additional 1,000 cubic yards

DTSC Information Advisory, Clean Imported Fill Material, October 2001.

Segregated material samples will be analyzed for the following constituents, as appropriate, and based on the initial characterization analytical results collected when the affected material was first encountered:

- TPH-gasoline;
- TPH-diesel;
- TPH-motor oil;
- BTEX, MTBE; and/or,

ED_006787_00010872-00143

- PAHs.

Sample results will be provided to candidate waste disposal facilities for comparison with waste disposal acceptance criteria. The material will be disposed at a Class I, Class II, or Class III waste disposal facility that is permitted to accept the waste as characterized by the waste profile.

As an alternative to disposal at a Class I or Class II waste disposal facility, the Owner may consult with the RWQCB to determine if onsite treatment is an option (Flowchart H-2, Boxes 14B and 15). If onsite treatment is approved, the segregated material will be treated until petroleum COPC concentrations are below:

- Tier I Petroleum PSC for shallow soil; or,
- Soil Import Plan screening criteria; or,
- Waste acceptance criteria for Class III disposal.

Treated soil with COPC concentrations below the Tier 1 Petroleum PSC may be used as fill material and placed under the Durable Cover. Treated soil with petroleum COPC concentrations below the Soil Import Plan (Appendix F) screening criteria may be used as clean fill for the Durable Cover. Treated soil that is not used as onsite fill and that meets Class III disposal criteria may be disposed offsite at a Class III landfill. The Owner will notify the RWQCB of its intent to handle and place or dispose of the treated soil and prepare a Site Closeout Report for review and approval (Flowchart H-2, Box 14A).

If onsite treatment is not approved, the excavated material will be hauled offsite for disposal at a Class I, Class II, or Class III waste disposal facility that is permitted to accept the waste as characterized by the waste profile (Flowchart H-2, Box 15A). After disposal of the segregated material, no further action will be recommended and a Site Closure Report will be prepared and submitted for RWQCB approval.

ED_006787_00010872-00144

4. HAZARDOUS SUBSTANCES CONTAMINATION

If, during the initial evaluation of the analytical results for a physical object and/or affected material (described herein at Section 2.2), the Unexpected Condition is determined to require additional evaluation and response (Flowchart H-1, Box 5E), the following process will be undertaken as outlined in the Hazardous Substances Unexpected Condition Flowchart (Flowchart H-3). Work will occur under the oversight of the SFDPH, except in two circumstances: i) where the work requires a new CERCLA action or decision document because hazardous substances are identified at levels above ROD remediation goals or a new hazardous substance is identified as specified in Sections 4.1 and 4.2 below; or ii) the SFDPH or the FFA Signatories determine on a case-by-case basis at any point in the process described in this Section H4.0 that it is more appropriate for technical or regulatory reasons for specific work to be conducted under the oversight of a designated FFA signatory. References to "SFDPH" in this section are deemed to be references to the designated FFA Signatory in any instance in which the SFDPH or the FFA Signatories have determined oversight by a designated FFA Signatory is appropriate. Completion of hazardous substances contamination evaluation and response under this UCRP will be documented in a Closure Report submitted for SFDPH review and approval. Where a new CERCLA action or decision document is determined to be necessary under the circumstances specified in Sections H4.1 and H4.2 below or an FFA Signatory oversees the work, the developer will obtain any necessary approvals from the appropriate FFA Signatory or FFA Signatories.

If the Unexpected Condition encountered is a physical object(s), including such items as USTs, sumps, drums, or other containers, the object(s) will be removed in consultation with the SFDPH and in accordance with applicable SFDPH permitting requirements, and the FFA Signatories will be notified (Flowchart H-3, Box 2B). Upon removal of the object(s), the surrounding material will be assessed for physical characteristics (visibly stained soil and chemical odor) and screened with field instruments for evidence of contamination. Affected material will be designated as such on the basis that is appears discolored, as compared to surrounding Bay Fill/Native Soil, it exhibits a chemical odor, and field monitoring instruments register a concentration that exceeds levels typical of Bay Fill/Native Soil. Removal of the affected material will proceed as presented in Section H4.1.

If there is no evidence of additional affected material in the excavation, other than the removed physical object, final soil confirmation samples will be collected from the excavation in accordance with the procedures outlined in the Navy's Parcel-specific Remedial Action Work Plan (RAWP). Collected soil samples will be analyzed for the

ED_006787_00010872-00145

following constituents, as applicable, and based on initial assessment results of the contents of the removed object:

- VOCs including MTBE;
- SVOCs;
- CAM 17 Metals;
- Pesticides;
- PCBs;
- TPH-gasoline;
- TPH-diesel; and,
- TPH-motor oil.

Collected soil sample results will be screened against the applicable ROD remediation goals or RSL if not listed in the ROD and Tier 1 Petroleum PSC. If soil samples contain COPCs above the applicable ROD remediation goals Tier 1 Petroleum PSC, or RSLs if not listed in the ROD, removal of the affected material will proceed as presented in Section H4.1.

If soil samples do not contain COPCs above ROD remediation goals Tier 1 Petroleum PSC, or RSLs if not listed in the ROD, a Closure Report will be prepared for SFDPH review and approval, the FFA Signatories will be notified, and work will continue under the guidance of the RMP (Flowchart H-3, Box 6B). If it is determined that no additional sampling of the excavation is necessary, and no groundwater was encountered (Flowchart H-3, Box 8), excavation will stop, and characterization of the excavated segregated material (excavated during the removal of the subsurface object) will proceed as per Section H4.3 (Flowchart H-3, Box 9B).

Encountered groundwater during the removal of the object(s) will be addressed as presented in Section H4.2.

4.1 Excavation of Material with Hazardous Substances

If material with hazardous substances is encountered during the removal of an object(s) or as a stand-alone material, the excavated affected material will be segregated, stockpiled, and secured pending characterization sampling for reuse, further treatment, or offsite disposal as per Section H4.3. The excavation will incrementally extend laterally and vertically to the maximum extent feasible to remove obviously affected

ED_006787_00010872-00146

material. In the case of affected material that cannot be readily identified by physical characteristics, the use of field screening instrumentation such as a PID or OVM will be implemented to assess the appropriate lateral and vertical extent of the excavation. Vertical excavation will extend until obviously affected material is removed to a depth of 10 feet bgs or the depth at which groundwater is encountered, whichever is shallower.

Upon removal of the affected material, soil confirmation samples will be collected from the excavation as specified in the Navy's Parcel-specific RAWP. Soil confirmation samples will be analyzed for the presence of the following constituents, as applicable, and based on initial characterization results of the contents of the removed object and/or encountered stand-alone affected material:

- VOCs (including methyl tert-butyl ether [MTBE]);
- SVOCs;
- CAM 17 Metals;
- PCBs;
- Pesticides;
- TPH-gasoline;
- TPH-diesel; and,
- TPH-motor oil.

The results of the excavation confirmation samples will be compared to the applicable Parcel-specific ROD remediation goals or Tier 1 Petroleum PSC or RSLs if not listed in the ROD.

If concentrations of COPCs remaining in the excavation are below the applicable screening levels, the SFDPH and the FFA Signatories will be notified, excavation will stop, and characterization samples of the excavated segregated material will be collected as per Section 4.3 (Flowchart H-3, Box 9B).

If, however, the concentrations of remaining COPCs are above the applicable screening levels, the SFDPH and the FFA Signatories will be notified and consulted to determine if the residual contamination represents a human and/or ecological hazard based on existing subsurface conditions, nature of the contamination, and proposed development plan for the area, in which case, a new CERCLA action by the Navy may be necessary.

ED_006787_00010872-00147

Owner will prepare a technical memorandum and recommendation for FFA Signatory review and determination (Flowchart H-3, Box 9A).

4.2 Encountered Groundwater

If excavation of affected soil extends to groundwater, a groundwater sample will be collected in accordance with the Navy's Parcel-specific RAWP. The collected groundwater sample will be analyzed for the presence of the following constituents, as applicable, and based on initial characterization results of the contents of the removed object and/or encountered stand-alone affected material:

- VOCs (including MTBE);
- SVOCs;
- CAM 17 Metals;
- PCBs;
- Pesticides;
- TPH-gasoline;
- TPH-diesel; and,
- TPH-motor oil.

If COPCs concentrations in the collected groundwater sample exceed the applicable ROD remediation goal (Flowchart H-3, Box 4A), Tier 1 Petroleum PSC (if applicable), or RSLs if not listed in the ROD, the SFDPH will be notified and the FFA Signatories will be consulted to determine if a new CERCLA action is required. In this case, Owner will prepare a technical memorandum and recommendation for FFA Signatory review and determination. If the concentrations of COPCs in the groundwater sample do not exceed the appropriate screening levels, work will proceed under the guidance of the RMP under SFDPH oversight, and the FFA Signatories will be notified (Flowchart H-3, Box 7).

If VOCs are present, collection of soil vapor samples may be required according to the DTSC Vapor Intrusion Guidance (DTSC, 2011 and 2012) to evaluate whether the area should be designated as a VOC Area Requiring Institutional Controls (ARIC). The results of the soil vapor sample analysis will then be compared to the Soil Gas Action Levels (SGALs) established for the Site. If soil vapor sample(s) were collected and COPC concentrations in the collected soil vapor sample(s) exceed the applicable SGAL and the area is not already in a designated VOC ARIC, the SFDPH will be notified and

ED_006787_00010872-00148

the FFA Signatories will be consulted to determine if the area should be added to the VOC ARIC designation or whether other action is required. If soil vapor sample(s) were collected and COPC concentrations in the collected soil vapor sample(s) do not exceed the appropriate SGALs, work will proceed under the guidance of the RMP under SFDPH oversight, and the FFA Signatories will be notified.

4.3 Segregated Material Characterization

Segregated material (e.g., soil) will be sampled for characterization purposes. Composite sampling of the segregated material will not be allowed and the number of discrete segregated material samples collected for characterization will be as follows (DTSC, 2001):

Volume of Segregated Material	Samples per Volume
Up to 1,000 cubic yards	1 discrete sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 discrete samples for first 1,000 cubic yards plus 1 sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 discrete samples for first 5,000 cubic yards plus 1 discrete sample per additional 1,000 cubic yards

Data from DTSC Information Advisory, Clean Imported Fill Material, October 2001.

Samples will be analyzed for the following constituents, as applicable, and based on the initial characterization analytical results collected when the affected material was first encountered:

- VOCs, (including MTBE);
- SVOCs;
- CAM 17 Metals;
- PCBs;
- Pesticides;
- TPH-gasoline;
- TPH-diesel; and,
- TPH-motor oil.

Sample results will be provided to candidate waste disposal facilities for comparison with waste disposal acceptance criteria. The material will be disposed at a Class I, Class

ED_006787_00010872-00149

II, or Class III waste disposal facility that is permitted to accept the waste as characterized by the waste profile.

For segregated material with COPCs concentrations exceeding ROD remediation goals or RSLs if not listed in the ROD for soil, the SFDPH will be consulted to determine if onsite treatment of hazardous substance- contaminated soils is viable. If onsite treatment of contaminated soil is approved by the SFDPH, the soil will be treated and re-sampled until hazardous substance concentrations are below the applicable screening levels. Once ROD remediation goals Tier 1 Petroleum PSC, and/or RSLs if not listed in the ROD have been met, the treated soil may be used as fill material and placed under the Durable Cover. A Closure Report will be prepared and submitted to the SFDPH for review and approval, the FFA Signatories will be notified, and additional work will proceed under the guidance of the RMP.

If onsite treatment is not approved by the SFDPH, Owner will dispose of the material in accordance with applicable laws and regulations. The Owner will prepare a Closure Report for SFDPH approval and will notify the FFA Signatories.

DRAFT

ED_006787_00010872-00150

5. REFERENCES

Department of Toxic Substances Control (DTSC), 2001. Information Advisory, Clean Imported Fill Material. October.

DTSC, 2012, Advisory – Active Soil Gas Investigations. April

DTSC, 2011. Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October.

ITSI, 2009. Final Project Work Plan Petroleum Hydrocarbon Corrective Action Parcel B. June

Shaw Environmental Inc. (Shaw), 2007. Final New Preliminary Screening Criteria and Petroleum Program Strategy, Hunters Point Shipyard, San Francisco, California. 21 December.

USEPA, 2014. Region IX Regional Screening Levels. May.

DRAFT

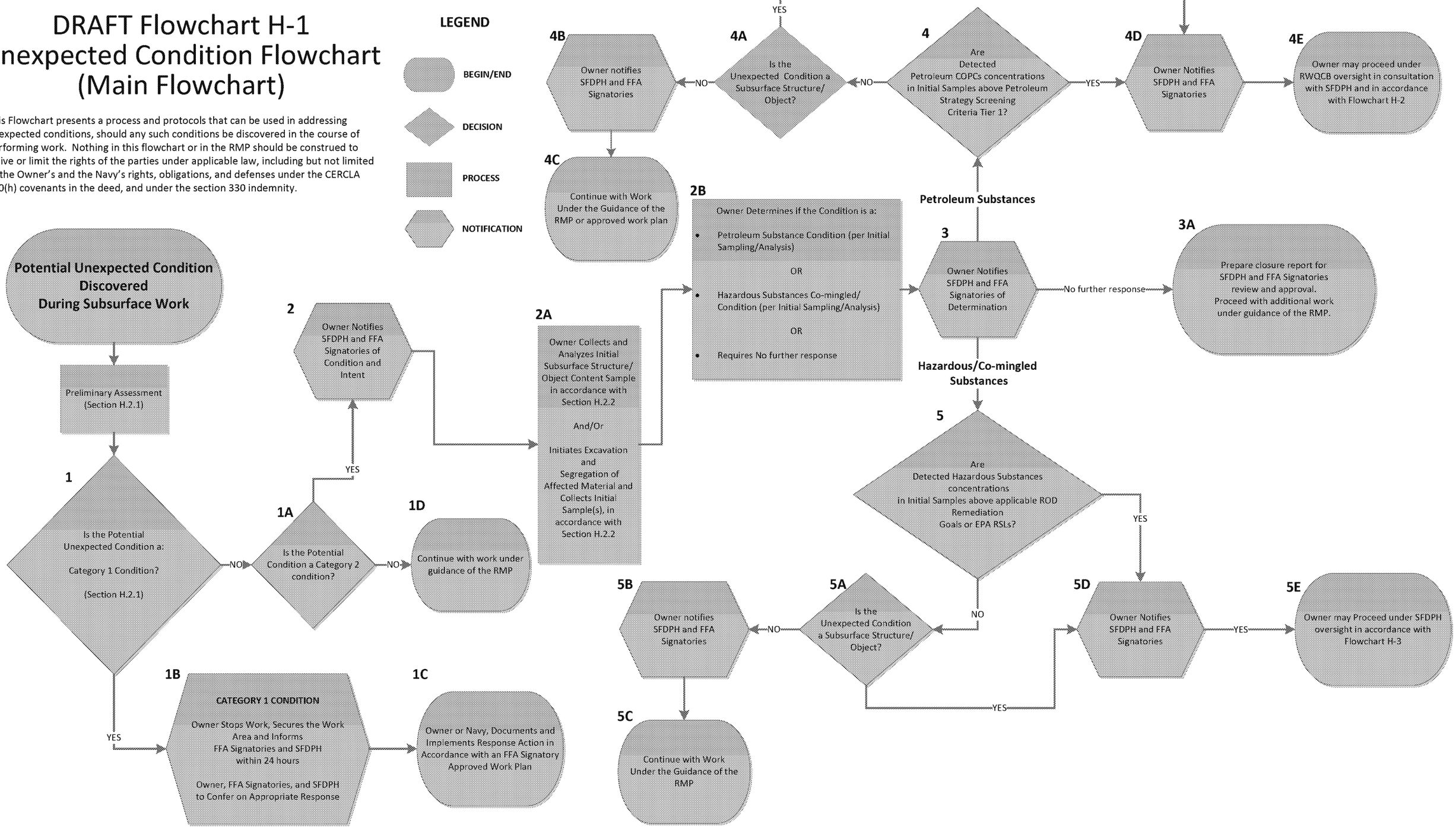
ED_006787_00010872-00151

FLOWCHARTS

November 2014 (Revision 0)

DRAFT Flowchart H-1 Unexpected Condition Flowchart (Main Flowchart)

This Flowchart presents a process and protocols that can be used in addressing unexpected conditions, should any such conditions be discovered in the course of performing work. Nothing in this flowchart or in the RMP should be construed to waive or limit the rights of the parties under applicable law, including but not limited to the Owner's and the Navy's rights, obligations, and defenses under the CERCLA 120(h) covenants in the deed, and under the section 330 indemnity.



REGULATORY AGENCIES:
US ENVIRONMENTAL PROTECTION AGENCY (EPA)
DEPARTMENT OF TOXICS SUBSTANCES AND CONTROL (DTSC)
REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)
SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH (SFDPH)

FFA SIGNATORIES:
US ENVIRONMENTAL PROTECTION AGENCY (EPA)
DEPARTMENT OF TOXICS SUBSTANCES AND CONTROL (DTSC)
REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)
US DEPARTMENT OF THE NAVY (NAVY)

Category 1:
- Radiological materials
- MPPEH

Category 2:
- Hazardous substances
- Petroleum substances
- Commingled

\\Oakland-01\Data\PRJ2003BRA\Lennar Urban\WR1247\Transfer Documents\RMP\RMP Version 5\Appendices\Appendix H\Flow Charts\UC flowchart H-1.vsd

November 2014 (Revision 0)

DRAFT Flowchart H-2 Petroleum Unexpected Condition Flowchart

This Flowchart presents a process and protocols that can be used in addressing unexpected conditions, should any such conditions be discovered in the course of performing work. Nothing in this flowchart or in the RMP should be construed to waive or limit the rights of the parties under applicable law.

LEGEND

- BEGIN/END
- DECISION
- PROCESS
- NOTIFICATION
- Subsurface Object Path
- Soil Contamination Path

1 **Petroleum Unexpected Condition Discovered During Subsurface Work**

Soil Contamination

2A Excavate and Segregate Visibly/ Olfactorily/Instrument-Screened Affected Material (Section H.3.0)

3A Was Groundwater Encountered During the Excavation/ Removal of the Affected Material?

NO

YES

4A Is There Free Product Present at a Thickness of >0.01 ft?

NO

6A Collect Groundwater Samples in accordance with Section H.3.2

YES

5A Notify SFDPH and RWQCB

7A Consult with RWQCB and Determine if a Corrective Action Plan for Review and Approval is Required for Groundwater

If Required, Owner may Proceed with Preparation and Implementation of Corrective Action Plan (Section H.3.2)
Continue with Soil Work Under this Flowchart

YES

7B Do Groundwater Sample(s) Indicate Petroleum COPCs Above Screening Levels?

NO

8 Continue with Work Under the Guidance of the RMP

Subsurface Object

2B Remove UST/Object in consultation with RWQCB

Dispose of Removed UST/Object Off-Site (Section H.3.0)

3B Is there Visual or Olfactory Evidence of Contamination in the UST/ Object Excavation?

YES

NO

4B Collect Soil Samples from the UST/Object Excavation

Analyze Samples for constituents as Appropriate Based on Initial Sample Results collected via Flowchart H-1, Box 2

5B Do **Excavation Confirmation Samples** Indicate Petroleum Chemicals of Potential Concern (COPCs) **Above** Tier 1 Petroleum Program Strategy Screening Levels

YES

NO

6B Continue with Work Under the Guidance of the RMP

Prepare Site Closeout Report and No Further Action Recommendation for RWQCB Review and Approval

9 Is Excavated Material Volume Greater Than 100 Cubic Yards?

NO

YES

9A Notify RWQCB

Proceed with Additional Excavation

9B Collect **Excavation Confirmation** Samples per Section H.3.1

Analyze **Excavation Confirmation** Samples for constituents as appropriate Based on Initial Sample Results collected via Flowchart H-1, Box 2.

10 Do **Excavation Confirmation Samples** Indicate (COPCs) **Above** Petroleum Program Strategy Tier 1 Screening Levels

YES

NO

10A Evaluate Remaining Conditions Using the Framework in the Low-Threat UST Case Closure Policy in Consultation with RWQCB

10B Collect and analyze **Segregated Material *Characterization* Samples** for constituents as Appropriate Based on Initial Sample Results collected via Flowchart H-1, Box 3 and in accordance with Section H.3.3

11 Does Low-Threat Criteria Evaluation Indicate Site is Suitable for No Further Action?

NO

YES

12 Notify SFDPH and RWQCB

13 Continue Incremental Excavation and Segregation of Affected Material
OR
Consult with RWQCB and Determine if a Corrective Action Plan for Review and Approval is Required

If required, Owner may Proceed with Preparation and Implementation of Corrective Action Plan

14 Do **Segregated Material Samples** Indicate COPCs **Above** Petroleum Program Strategy Tier 1 Screening Levels in the Segregated Material?

NO

YES

14A Notify SFDPH and RWQCB

Prepare Site Closeout Report and No Further Action Recommendation for Review and Approval

Reuse Segregated Material Under the Durable Cover with RWQCB Approval

Proceed with Additional Work Under the Guidance of the RMP

14B Consult with RWQCB to determine if On-Site Treatment of Petroleum Contaminated Segregated Soils is Allowed

15 Is On-Site Treatment of Petroleum Contaminated Soil Approved?

NO

YES

15A Dispose of Segregated Material Off-Site

Prepare Site Closure Report and No Further Action Recommendation for RWQCB Review and Approval

15B Treat and Resample Segregated Material Until Petroleum Chemical Concentrations are **BELOW** Tier 1 Screening Levels

REGULATORY AGENCIES:
REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)
SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH (SFDPH)

\\Oakland-01\Data\PRJ2003RPM\Lennar Urban\WR1247\Transfer Documents\RMP\RMP Version 5\Appendices\Appendix H\Flow Charts\UC Flowchart H-2.vsd

November 2014 (Revision 0)

DRAFT Flowchart H-3 Hazardous Substances Unexpected Condition Flowchart

This Flowchart presents a process and protocols that can be used in addressing unexpected conditions, should any such conditions be discovered in the course of performing work. Nothing in this flowchart or in the RMP should be construed to waive or limit the rights of the parties under applicable law, including but not limited to the Owner's and the Navy's rights, obligations, and defenses under the CERCLA 120(h) covenants in the deed, and under the section 330 indemnity.

LEGEND

- BEGIN/END
- DECISION
- PROCESS
- NOTIFICATION
- Subsurface Object Path
- Soil Contamination Path

1 **Hazardous Substances Unexpected Condition Discovered During Subsurface Work**

Soil Contamination → **2A** Excavate and Segregate Visibly/ Olfactorily/Instrument-Screened Affected Material as per Section H.2.0 and H.4.1

Subsurface Object → **2B** Remove UST/Object in Consultation with SFDPH. Dispose of Removed UST/Object Off-Site (Section H.4.0)

3B Is there Visual or Olfactory Evidence of Contamination in the UST/ Object Excavation?
- YES → 2A
- NO → **4B** Collect Soil Samples from the UST/Object Excavation. Analyze for Constituents as Appropriate Based on Initial Sample Results and in accordance with Section H.4.1

5B Do **Excavation Confirmation Samples** Indicate CERCLA Chemicals of Potential Concern (COPCs) **Above** applicable ROD Remediation Goals, Petroleum Tier 1 Screening Criteria, or RSLs?
- YES → 1
- NO → **6B** Notify SFDPH and FFA Signatories. Prepare Closure Report for SFDPH* Review and Approval. Continue with Work Under the Guidance of the RMP

6 Collect Soil Vapor Samples in Accordance with Section H.4.2

6A Do Soil Vapor Samples Indicate Hazardous Substances Above Applicable SGALs?
- YES/NO → **6C** Notify SFDPH and FFA Signatories. Prepare recommendation for FFA Signatory Review and Approval on whether a new CERCLA action / decision document is necessary.
  - **6D** Owner may Continue with Soil Work Under this Flowchart as per Section H.2.0 and H.4.1 → 2A

3A Was Groundwater Encountered During the Excavation/Removal of the Affected Material?
- YES → **4A** Collect Groundwater Samples in accordance with Section H.4.2 → **5A** Do Groundwater Samples Indicate Hazardous Substances and/or Petroleum COPCs **Above** applicable ROD Remediation Goals, Petroleum Tier 1 Screening Criteria, or RSLs?
  - NO → **7** Continue with Work Under the Guidance of the RMP. Notify SFDPH and FFA Signatories
  - YES → 6
- NO → **8** Collect and analyze **Excavation Confirmation Samples** per Section H.4.1, as Appropriate Based on Initial Sample Results collected via Flowchart H-1, Box 2 → **9** Do **Excavation Confirmation Samples** Indicate Chemicals of Potential Concern (COPCs) **Above** applicable ROD Remediation Goals and/or Petroleum Tier 1 Screening Criteria or RSLs?
  - YES → **9A** Notify SFDPH and FFA Signatories. Prepare recommendation for FFA Signatories Review and Approval on whether a new CERCLA Action / decision document is necessary, or if additional excavation can go forward incrementally.
  - NO → **9B** Collect and analyze **Segregated Material Samples** as per Section H.4.3, as Appropriate Based on Initial Sample Results collected via Flowchart H-1, Box 2 → **10** Do **Segregated Material Samples** Indicate Chemicals of Potential Concern (COPCs) **Above** applicable ROD Remediation Goals, Petroleum Tier 1 Screening Criteria, or RSLs?
    - NO → **10B** Notify FFA Signatories. Prepare Closure Report for SFDPH* Review and Approval. Reuse Segregated Material Under the Durable Cover with SFDPH Approval. Proceed with Additional Work under the Guidance of the RMP
    - YES → **10A** Prepare recommendation for SFDPH* Approval on whether On-Site Treatment of Hazardous Substances Contaminated Segregated Soils is Appropriate → **11** Is On-Site Treatment of Hazardous Substances Contaminated Soil Approved by the SFDPH*?
      - YES → **11A** Treat and Resample Segregated Material Until Hazardous Substances Concentrations are **BELOW** applicable ROD Remediation Goals, Petroleum Tier 1 Screening Criteria (if applicable), or RSLs → 10B
      - NO → **11B** Dispose of Segregated Material Off-Site. Prepare Closure Report for SFDPH* Approval and Notify FFA Signatories

FFA SIGNATORIES:
US ENVIRONMENTAL PROTECTION AGENCY (EPA)
DEPARTMENT OF TOXICS SUBSTANCES AND CONTROL (DTSC)
REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)
US DEPARTMENT OF THE NAVY (NAVY)

NOTE:
SFDPH* - on this chart indicates, as stated in the text of Section 4.0, that this could be SFDPH and/or a FFA signatory.

\\Oakland-01\Data\PRJ2003RPM\Lennar Urban\VR1247\Transfer Documents\RMP\RMP Version 5\Appendices\Appendix H\Flow Charts\UC Flowchart H-3.vsd